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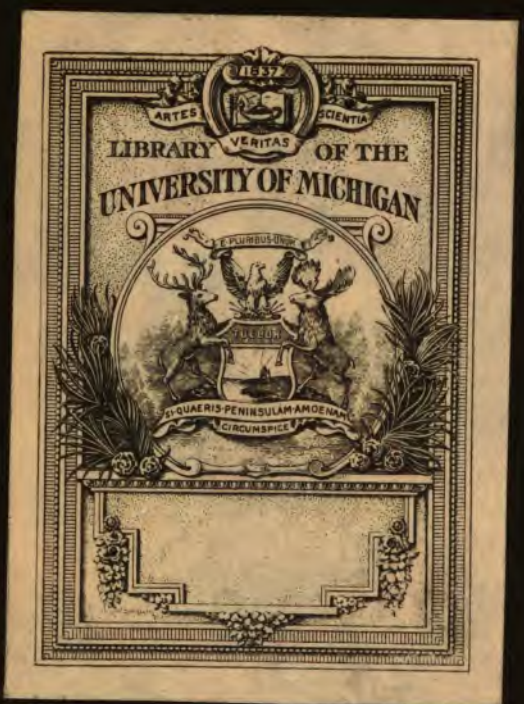
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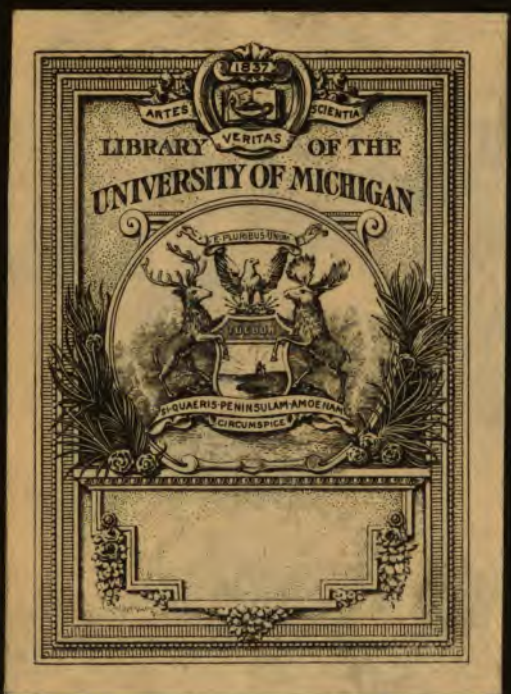
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THE NERVES.

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BEING

A Few Practical Observations

ON THE MANAGEMENT AND TREATMENT OF SOME OF THE MOST IMPORTANT AND DISTRESSING AFFECTIONS OF THE NERVOUS SYSTEM.

BY

HENRY BELCHER, M.D.

SECOND EDITION.

Quædam labuntur mente; quædam compotes sui confitentur se urgeri dolore nervorum.

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TO THE MEMORY OF

GEORGE HILBERS, M.D.,

M.R.C.S.L., L.S.A.L.,

THIS BOOK IS DEDICATED

AS A TOKEN OF GRATITUDE, HIGH ESTEEM

AND ADMIRATION,

DURING MANY YEARS

OF UNINTERRUPTED FRIENDSHIP,

BY

THE AUTHOR.

PREFACE TO THE SECOND EDITION.

Encouraged by the very favourable reception of the First Edition of my little Work, I have ventured to most carefully revise its pages, and add some important and interesting cases, in hopes that this Edition will be as favourably received as its predecessor.

28, Cromwell Road.

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INTRODUCTION.

AFTER labouring for over thirty years in the vineyard of medicine, I am advised by my friends that it would be of public advantage were I to formulate, however roughly, some of the conclusions to which I have been led by experience and observation. It has been urged upon me, that, having been somewhat successful in the treatment of diseases affecting the nerves, I owe it as a duty to society, now that I have attained my meridian, to throw all the light I can upon my special subject — to which I have devoted the energies of a lifetime. An appeal thus

urged upon me, I feel unable to resist, conscious although I am of my own inability to do full justice to myself, still less to a theme of prime importance in an age of high pressure civilisation; and I therefore enter on the task thus imposed upon me, pleading that a sincere desire to alleviate the sufferings of my fellow-creatures may prove sufficient apology for any short-comings on my part. I can, in truth, adopt as my own, the sentiment of Terence, "A man myself, I feel for all mankind."

At the present epoch in the history of medicine a host of well-intentioned works are constantly issuing from the press, which from their incomprehensible and complicated character, seem designed solely to furnish material for discussion on some abstruse point, such as, *e.g.*, the therapeutical action of drugs. In this respect medicine seems to resemble the two other liberal professions,

since it is by no means clear that divines of different schools have been unanimous in their definition of the same theological terms, whilst some of the most eminent among the gentlemen of the long robe have actually differed as to the precise line of demarcation between justice and injustice. If then uncertainty attaches to the sciences of Divinity and Law, is it not most illiberal and ungenerous that Physic should be so bitterly reproached in the person of any practitioner who, from a conscientious conviction, steps out of the orthodox path? This obstinate insistence on the infallibility of the pathogists of the past seems to me to resemble cavilling over the peculiar character of some pretty little shell on the sea shore, whilst the great ocean of truth lies all undiscovered. Surely the inevitable evils of life are sufficiently numerous to admit of varied treatment, and he must have a very weak

head, or a very bad heart, who can seriously propose to increase the terrible aggregate by ignoring methods of cure which have already stood the test of experience. It is an inexplicable incongruity for a sentient being to do or say anything knowingly that will give pain to another; but it is beyond measure astonishing that any one can divest himself of pity for those who partake of the same nature with himself. No valid excuse can ever be pleaded for callousness, or for neglecting to alleviate the sufferings of others when we have the power. I am, therefore, justified in doing as I would other members of my profession would do—*viz.*, in bringing under the notice of all whom it may concern, plainly and clearly, the results of my own personal observations and extended experience in the treatment and management of some of the most important diseases to which our frail frames are

subject. Moreover, having during the whole of my professional career given a certain portion of my time to the service of the poor—a labour of love I hope still to be able to continue—and consequently having had frequent opportunity of witnessing and treating a vast number of the most distressing cases that can come under the notice of the physician—*viz.*, diseases and disorganisation of the nervous system —I feel less difficulty in putting pen to paper, since I am in a position to bring forward the testimony of friends who have been eye witnesses of the results of some of my cases. Nevertheless, the very fact of my having frequently to use the first person — an unavoidable yet disagreeable necessity — leads me to apprehend that I may be charged with self-seeking or other unworthy motives. I shall, however, console myself with the conviction that I seek no fame, nor have I any personal ambition

to gratify. In fact, I am keenly alive to the very responsible position which I fill, and am simply actuated by an unselfish desire to benefit my fellow-creatures to the fullest extent my humble ability will admit, leaving those invalids who may feel disposed to carry out my suggestions to judge for themselves as to whether, and to what extent, they are benefited by my "modus operandi." My invariable practice has been to confide in the judgment of my patients, as regards the prolonged continuance of a special course of treatment, and, in the event of my failing to cure them, I ever keep in mind the admonition of Hippocrates, the earliest physician of note, on two most important points: first, that we do our patients good; and, secondly, that at least we do them no harm. *Ergo*, no patients of mine can assert that they have suffered from the baneful results of a powerful system of drugging, which, beyond

all question, is one of the great causes of so many broken-down constitutions that medical men are constantly being brought in contact with. Let it, however, be clearly understood, that I do not presume to dictate to my brother practitioners how they should treat their cases, neither do I charge them with any shortcomings on their part—at least knowingly. I feel, indeed, thoroughly convinced that every practitioner is most anxious to succeed in curing his patient; but, on the other hand, it is utterly impossible that the active general practitioner can devote sufficient time and thought to every complicated form of disease. Hence we find so many successful special practitioners who perceive the necessity of confining themselves to some particular complaint, the pathology of which they learn in time absolutely to master. Now, of all complaints, to which flesh is heir, none are at once so distress-

ing and so difficult of treatment as those affecting the nerves. It too often happens that many poor sufferers from nervous affections are deterred, partly from a false sense of delicacy, and partly from that want of decision and determination which forms one of the prime characteristics of this class of complaint, from applying to those practitioners who, from their extensive experience and observation of many years, are best able to afford them relief, and so linger on in protracted misery, until the ravages of disease terminate their pitiable existence.

With these few preliminary observations I will now proceed to outline some of the most characteristic forms of nerve diseases and affections of the nervous system, giving my readers as full a description of their nature and treatment as lies in my power, subject only to the conditions of a limited space.

THE NERVOUS SYSTEM.

In order that my readers may be better able to follow me, I will, in the first instance, glance at the physiology and general pathology of the nervous system, commencing with the vital principle, which, in a wonderful manner, endows the whole frame, including the blood itself, with properties very different from those of inorganic matter, and is more especially connected with the nervous system. The brain, as the organ of the mind, is both the immediate source of volition, and the part to which all impressions on the nerves of sensation are ultimately referred. The spinal cord, a continuation of certain parts of the brain, is the immediate organ of the

greater part of the nerves, both of sensation and volition, which together form the joint source from whence all the nerves of sensation and voluntary motion arise, and from whence also the mandates of the will are sent forth, and to which the intelligence of the senses is conveyed. In addition to these important parts of the nervous system, there is a separate centre of nervous influence in the sympathetic nerve, which, connecting itself in a manner at present but little understood, with the nerves of motion and sensation, presides over the functions of those organs which are the most essential to life, and is the cause of most of those movements which are independent of the will, of many of those sensations by which life is preserved, and of those chemical changes which are peculiar to organized beings. For the movements of respiration, a peculiar set of nerves is provided. There is, moreover, yet another

function, and a corresponding set of nerves, to which the attention of the profession has been strongly directed by my friend the late Dr. Marshall Hall. He called the function reflex, and the system of nerves excito-motor. There are certain parts of the body—*viz.*, the canals lined by mucous membrane, and especially their outlets, which when irritated excite contraction of the muscles, subservient to the performance of their functions. Thus, if the lining of the membrane of the air passages is irritated, the respiratory muscles are thrown into violent action. Here there is no exercise of volition, and yet there is muscular contraction. We may observe, further, in cases of paralysis attended with loss of sensation and voluntary motion, and in experiments on decapitated animals, that for the production of these effects it is not necessary that sensation or volition should be present. Hence it becomes necessary to suppose the

existence of two separate sets of nerves, one proceeding from the skin, or mucous membrane, to the brain, or spinal marrow, and the other from those organs to the muscles. The absence of sensation and volition at once pointed to the spinal marrow, and not the brain, as the centre of union of these two sets of nerve fibres, and, subsequently, that which theory indicated essential, practical physiologists have shown to be true.

We will now proceed to consider the several orders of nerves, and the relation which they bear to the brain and spinal marrow: first, the cerebral, or sentient, or voluntary, of which the brain is the centre; second, the spinal or excitomotory, of which the true spinal cord is the centre; thirdly, the ganglionic or the nutrient secretory, &c., &c., of which the sympathetic nerve forms the principal portion.

The first order of nerves comprises all

the nerves of sensation—*viz.*, the Olfactory, the Optic, the Auditory, the Gustatory, the nerves of touch, and all the nerves of voluntary motion. The common centres of all these nerves are the cerebrum and cerebellum. The greater part of the nerves of touch, or common sensation, may be said to unite with the nerves of voluntary motion in forming the external portion of the spinal marrow, and in this manner to communicate with the brain.

The second set consists also of two orders of nerves, of which the one passes chiefly from the internal surface to the interior parts of the medulla oblongata and spinalis, and the other from the same parts to muscles having peculiar actions subservient chiefly to indigestion and egestion. Some fibres of the same order of nerves are probably distributed through other parts of the body, such as the skin and muscles of voluntary motion. The part of the spinal

marrow to and from which these nerves run has been called the true spinal marrow, in contra-distinction to those parts of it which are formed by bundles of cerebral nerves. The motions due to this system are termed "excited." The third class of nerves, or the ganglionic, is divided by my late friend, Dr. Marshall Hall, into the internal ganglionic, or the sympathetic, including some few fibres of the pneumogastric, and the external ganglionic, embracing the fifth nerve, and the posterior ganglia of the spinal nerves. These nerves are believed to be especially designed for the nutrition of the external organs. The functions corresponding to the several divisions of the nervous system, then, are (1) sensation and voluntary motion; (2) excitement to action without sensation, and combined motions without will; and (3) nutrition, secretion, and the motions connected with them. The nerves consist of minute fibres enclosed in

sheathes, distinct through their entire course, and terminated, in the parts to which they are distributed, either by free isolated extremities, or by loops between every two fibres, or by net-work like blood vessels. Experiment has made us acquainted with the functions of the more important nerves of the body, although much remains to be discovered. It has also thrown a light on the laws which govern the transmission of nervous influence; though, on the other hand, it has left the nature of that influence involved in the same obscurity which hangs over the real essence of light, heat or electricity. The effect of the division of a nerve is well known. If the nerve be one of sensation, irritation of the branches or trunk of the nerve below the point of division causes no pain. If it be a nerve of voluntary motion, neither the will nor a stimulus applied to the nerve above the point of division can cause the muscle

through which it is distributed to contract. On the other hand, if the voluntary nerve be irritated below the point of division, or the sentient nerve above it, motions take place in the one case and sensation in the other, the sensation being referred to the parts supplied by the extremities of the nerve. This law of sensation is very strikingly illustrated in cases of amputation of an arm or leg, where irritation of the divided extremity of the nerve is referred to the fingers or toes of the lost limb, even for years after its removal. A knowledge of the fact that irritation of the trunk of a sentient nerve produces pain, not in the trunk itself, but in the parts to which its branches are distributed, influences to a great extent the treatment of disease, and also tends to destroy our confidence in the division of nerves as a remedy for pains in the parts which they supply. The failure of this remedy in several cases of tic-doloureux

has been satisfactorily explained by the discovery of some cause of irritation, as a tumour, or a spicule of bone at the origin of the nerve. Although pressure applied to a sentient nerve causes pain in the parts supplied by its branches, a still stronger pressure produces pain in the trunk of the nerve itself. Severe local injury to a nerve of sensation or voluntary motion destroys its power as a conductor of nervous influence, but it affects the nerve itself only locally, for irritation of the portion of the uninjured nerve which is in connection with the brain causes sensation, and that of the portion of the nerve in connection with the muscles superinduces muscular contraction. When, however, a nerve of sensation is stretched violently through its whole length, it loses its property of exciting muscular contraction, and sometimes the muscle itself is divested of its irritability, and cannot be made to contract by any stimulus, however powerful.

I may remark here, that it has been proved beyond a doubt that all *stimuli* applied to the nerves in the dead body act in nearly the same way and produce the same effects, the difference being merely one of degree. Of such stimulants the electric and galvanic fluids are the most effectual, and they have been accordingly employed in almost all experiments on the properties of the nerves. These experiments have shown that the nerves when stimulated by galvanism, do not act as mere conductors of the galvanic fluid, for the muscles contract when the galvanic current is made to pass transversely through the nerve, and the muscle cannot be made to contract by any degree of mechanical irritation applied to a nerve of sensation, whilst the slightest irritation of a nerve of motion gives rise to very strong contraction of the muscles. Hence, then, it appears that there resides in the nerves themselves a property of

exciting muscular contraction on the application of a stimulus, independent of the brain and spinal cord. It has been further shown that this property may be exhausted by the continual application of a stimulus, and that it becomes re-invigorated after an interval of rest.

These experiments on the bodies of animals have been corroborated by others made during life on the human subject; and it has been satisfactorily proved, not only that all *stimuli*, whether mechanical, chemical, or electrical, act in the same way, but that they cause the several nerves to which they are applied to manifest the characteristic properties with which they are individually endowed. Thus, irritation of the nerves of common sensation causes pain; of nerves of motion, muscular contraction; of the retina, the sensation of light; of the auditory nerve, that of sound. The stimulus of galvanism,

too, excites in each organ of sense the sensation proper to it: taste in the tongue, a peculiar smell in the nose, light in the eye, a musical sound in the ear.

Some of the *stimuli* which have been mentioned admit of application in disease. Of these, heat, cold, and electricity, are the most important. Both heat and cold cause the muscles to contract, and both in excess destroy the irritability of the muscles. Cold water injected into an artery causes contraction in the muscles which it supplies; and this fact has been taken advantage of in some cases of internal hemorrhage, and the very excellent influence of electricity and galvanism in exciting muscular contraction is manifested in some cases of paralysis. The nervous power which after death is exhausted by the continual application of *stimuli*, is exhausted also in the living body, and in both cases rest is required for its restora-

tion. The effects of this exhaustion on the entire frame of the sentient subject are repaired by sleep, and in parts of the body by repose, or change of action, which is but a form of repose. Moreover, the effects produced in nerves of sensation or motion by the application of *stimuli* are most remarkable. If the stimulus be very powerful, it may entirely destroy the excitability of the nerve, though applied only momentarily, as in the case of a flash of lightning producing permanent blindness. The same stimulus may at once annihilate the nervous power of the brain and spinal cord, and produce sudden death. Permanent paralysis may arise from the same cause. A weaker stimulus applied for a longer time may produce a similar effect. Snow-blindness, for instance, caused by the continued strong reflection of light on the retina, is an illustration in point; and the paralysis of the muscles

which sometimes follows violent and long-continued exercise is another example of the same kind. Still weaker *stimuli*, too, or the same *stimuli* applied for a shorter period, exhaust the excitability of the nerve, and cause fatigue. Thus, if we gaze for a long time at the same colour, the eye becomes wearied, and insensible to the impression of the colour. If we keep the same muscle in action only for a few minutes, as when we hold the arm extended, we feel extreme lassitude. The same result also follows when we continue standing in the same position, whilst the slightest change of posture affords instantaneous relief. The extreme exhaustion of the nervous power is always accompanied by severe pain. Thus, after the long-continued application of the eye the sensibility of the retina is so increased that even a feeble light produces intense distress, and the stimulus of extreme cold

or heat applied to the skin gives rise to acute suffering. In a similar ratio, the long-continued action of the nerves of the foot, as in walking, produces the most excruciating agony.

The application of *stimuli*, then, to the nerves of sensation, or voluntary motion, produces, according to its degree and duration, entire destruction of the nervous power, or great exhaustion of it, accompanied in extreme cases by severe suffering, and the functions of the nerves are not restored until after an interval of rest proportioned to the tension of nervous exhaustion. Experiments have shewn that the brain and spinal cord are the sources whence the restorative influence emanates, and that nerves which have been permanently cut off from these centres lose their property of exciting the muscles to contraction.

Having thus dwelt beyond the limits of

my allotted space on the generally received views respecting the nerves of sensation and voluntary motion, I will now proceed to the consideration of the sympathetic nerve—the functions of which are of the greatest importance and interest to the physician; and also of the excito-motory system of nerves. First, then, the sympathetic nerve. The functions of this nerve are three-fold: it presides over the involuntary motion of the more important viscera of the body; it is the medium by which all impressions are conveyed from those parts to the central organs; and it regulates the processes of secretion, and also of nutrition, in every portion of the human frame—a fact I am most anxious my readers should keep in mind. With regard to the first property of the sympathetic nerve—that of presiding over the involuntary motions of the important viscera—it has been ascertained by experi-

ment that the parts which the nerve supplies, as, *e.g.*, the heart, the intestinal canal, &c., &c., continue to move long after they are separated from their connection with the rest of the sympathetic system, even after their removal from the body, and that the contractility of these parts is preserved longer than that of the voluntary muscles. The effects of *stimuli* applied to the sympathetic nerve are also of longer continuance than those of *stimuli* applied to the nerves of voluntary motion, and the motions thus excited are either rhythmic, as in the heart, or continuous, as peristaltic movements of the intestines. All the parts supplied with nerves from the sympathetic nerve are, to a certain extent, independent of the brain and spinal marrow. Thus, the heart will continue to beat long after the division of its nerves, after severe injury of the brain and spinal cord, and even after its entire

removal from the body. That the spinal cord influences the contractions of the heart has been proved experimentally. That the brain affects them is shown by the familiar effect of mental emotion upon them. On the other hand, when the mind is tranquil the heart's contractions are few, and in sleep they fall much below the average number of those of our waking hours. Moreover, there is also good reason to believe that, as the parts supplied by the sympathetic nerve are strongly affected by influences emanating from the brain and spinal, so the sympathetic nerve itself is dependent for its supply of nervous power upon those centres. The impressions made on the nervous fibres of the sympathetic nerve are not usually conveyed to the brain—in other words, they are not of the nature of sensations; nevertheless, violent causes of irritation may give rise to sen-

sations, either in the parts supplied by nerves from the sympathetic nerve, as in enteritis, or in those supplied by cerebro-spinal nerves. In this latter instance the painful sensations are usually experienced in the extremities of the organs affected. Thus, we have itching of the nose and anus from the irritation of worms in the intestines. As an example of pain reflected from the sentient nerves of the spinal cord, we may instance the irritation of the intestines, and other internal organs, in delicate females, which cause reflected sensations of a still more marked character, such as acute pain of the muscles of the chest and abdomen, accompanied by tenderness of the spine itself, and sometimes removable by remedies applied to the part affected.

The same irritations conveyed to the spinal marrow, and accompanied by tenderness there, may be reflected from the

same parts in the nerves of voluntary motion, giving rise to a long list of spasmodic diseases, such as convulsions, chorea, and tetanus. Again, the sympathetic system of nerves has been shown to preside over secretions and nutrition, and consequently over the functions of the parts concerned in these important processes; the capillary vessels, therefore, and the arterial system generally fall under this influence.

SOFTENING OF THE BRAIN.

Having thus given my readers a short sketch of the general opinions entertained of the functions of the nervous system, in order that they may be the better able to follow me, I will now review chronic

diseases of the brain, of which there are several kinds, such as softening, or *ramollissement*, as it is termed, irritation, abscess, atrophy, hypertrophy, scrofula, &c., &c.

Softening of the brain is a disease only too frequently to be met with, and one which at the present time is occupying much of the intelligence and attention of our greatest physicians and pathologists, English as well as French, owing to the fact of its affording the most interesting class of cases we are called on to handle —first, from the great difficulty in forming a correct diagnosis; and secondly, in determining a course of treatment; because, for the most part, as will easily be understood, the physician has so much difficulty in getting the patient to do precisely what he desires, and what his long experience has taught him ought to be done, whilst even under the most favourable conditions cure is out of the question, and therefore

we can only alleviate the patient's sufferings by promptly meeting indications as they arise. Then there is an opposite class of case, which so exactly assumes all the normal characteristics and symptoms, that great nicety of judgment is required to be able to discriminate between the two varieties.

Of course in this limited space I can only give my readers some of the most prominent symptoms; such, for instance, as contraction of one or more limbs, convulsions, paralysis, failing memory, numbness of the extremities, defective articulation, with a whole host of other sensations affecting the head, which the patient invariably attributes to some remote cause. If, therefore, any of my readers are desirous of obtaining a full and lengthy description of this class of disease, I would refer them to the treatise of Abercrombie on diseases of the brain, Watson's lectures, and the

more recent and equally able works of Dr. W. A. Hammond, on diseases of the nervous system; but let it be clearly understood that I do not advise invalids to read the various books written on the special form of complaint which they may be, or fancy they are, suffering from. Here, as elsewhere, "a little learning is a dangerous thing; drink deep, or taste not the Pierian spring."

I will now adduce one or two of the most interesting cases of this form of disease which have come under my observation. A lady called on me, and stated that she had been advised to consult me on account of her husband, who had visited Brighton on the recommendation of some medical gentlemen, who had pronounced his case to be softening of the brain—a very serious consideration, seeing they had a large family almost dependent on his exertions for their subsistence. I saw him

the same day, and certainly discovered some very ugly symptoms, such as might lead many practitioners to arrive at such a conclusion; but, inasmuch as he was only fifty-seven, and his parents had lived to a good old age, there being no trace of mental disease in any members of his family, nor had he at any time suffered from inflammation of the brain or its membranes—these, combined with a variety of other favourable symptoms, induced me to regard it as nothing worse than a clear case of the result of an overtaxed brain, and by no means in the light of organic disease. From this opinion both wife and husband naturally derived great comfort, and the man promised steadily to adhere to my instructions, and faithfully carry out my mode of treatment. I am thankful to be able to add that the patient became quite restored to his usual health and strength, and was able to return to and

carry on his profession; and thus he continues, strictly observing the rules and precautions of management which I laid down for him.

At this point I will pause to remark that I can well imagine my readers' anxiety to learn what medicines I prescribed in this case, and here comes a great difficulty. Unfortunately, I am unable to at once gratify their very natural curiosity, for the simple reason that I cannot impart to the world at large my experience in the manipulation of various drugs, the result of many years' observation and thought; and, indeed, were I to attempt to do so on paper, I should fail, knowing, as I do full well, the utter futility of presenting complex formulæ to the non-professional mind. Besides which, a series of prescriptions suited to an infinite variety of cases, would extend these pages far beyond my intention, and even then leave my readers no wiser than they were

before. I must, therefore, content myself with simply naming at the conclusion of each case the various medicines employed, in hopes my more enlightened readers may be able to diagnose the particular symptoms, and perceive to which drug they point, bearing in mind, however, the practical aphorism, "When a man is his own lawyer he has a fool for a client." The golden rule is never to allow too much valuable time to be lost before applying to a medical practitioner.

The following are the principal medicines I prescribed in this case: *conium.*, *bell.*, *arsen.*, *phos.*, *aur.*, *plumb.*, *strych.*, *phos.*, *phos. acid*, *ignatia*, *mosch*, *coff*, *laches*; and I also recommended a phosphorised water, which is very nicely prepared by Mr. Schilling, of this town. Each bottle contains the one-hundredth part of a grain of phosphorus. I have since learned that the friends or connections of this patient,

who were so strongly adverse to my treating the case, give it as their opinion, that he would have got well just as soon by "*vis medicatrix naturæ.*" This is, of course, a common and an ungenerous fallacy, and scarcely worth mentioning. I would, however, warn those who thus requite the services of a professional man, that they incur a heavy responsibility, since their idle words have the effect of keeping the sufferer apart from the advice which would profit him, oftentimes until the disease has got beyond the reach of medicine. In the case I am reviewing, this singular fact remains to be narrated—*viz.*, that for a long time before I saw my patient, the symptoms of his complaint were chronic, and unabated, a result he attributed, with justice, to the huge doses of nauseous drugs he had swallowed. I will add, that a man who could thus argue concerning the injurious character of drugs could not

have been affected with the symptoms of brain softening.

The next case was more difficult, inasmuch as there were all the signs of softening of the brain most unmistakably marked, the patient having a permanently contracted state of the flexor muscles, and one of the limbs, which is regarded as a most significant symptom by some of the French authorities, preceded by convulsions, and other important symptoms. Nevertheless, the disease, I am happy to be able to state, yielded to active treatment. I will append one more case, which I consider highly interesting. A spare, delicate man, thirty-four years of age, after suffering for some days with intense head-ache, was seized with convulsions, which continued nearly an hour, leaving paralysis of the left arm. I at once administered arnica and belladonna in frequent alternate doses, with cold applications to the head. Three

days afterwards the symptoms were much relieved, and he seemed to recover in some degree the use of his arm, but two days later the acute head-ache returned, accompanied with vomiting and convulsions. The patient, however, continued sensible, and complained of intense head-ache. After a few doses of the arnica and belladonna in rapid succession the convulsion ceased, and the head-ache was relieved, but the paralysis remained, and the condition was unaltered for three days, the pulse falling from 102 to 59 beats in the minute, with some degree of head-ache and occasional vomiting, and return of the convulsions, which left him in a permanent state of palsy, extending to the other side, and affecting especially the thigh. At this juncture he became dull and oppressed, and there were grave signs of coma setting in, which led me to fear the worst results. The brain, however, in the course of a

little time righted, the symptoms assumed a more favourable form, and under *nux v.*, *arsen.*, *gelsem.*, &c., and with the valuable aid of the Turkish Bath,* followed by various preparations of *phosphorus*, he was restored to his usual health, and in the course of a few months I quite lost sight of him, although he had solemnly promised to report to me occasionally for the following twelve months, in order that I might complete my case. This is not, alas! an uncommon occurrence, and is referable, I suppose, to the principle, *vitandi omni modo.* Patients, I have learnt by experience, endeavour to remove from their minds all memory of the perilous position they once occupied — a merciful provision of nature, perhaps; and they are also apt to forget the many anxious hours caused their

* I feel bound to say we have a most excellent and well-conducted Turkish bath in this town, built at considerable cost, possessing every comfort that can be desired.

doctors, until aroused from slumbers by signs of a return of the terrible trouble, which I sincerely trust, in this case especially, may never happen. It is then that the patient goes in quest of him who stood by him in the hour of tribulation, and the virtue of gratitude revives in his breast.

I cannot close these observations on this particular case without expressing my hearty appreciation of the zeal and untiring devotedness of this patient's attendants, and the careful and scrupulous manner in which they carried out my instructions. To them I attribute much of the success which followed my efforts; and I will add that my patient owes them an everlasting debt of gratitude.

I will now say a few words on another most important affection of the brain—coma, or continued delirium, which may be regarded as determination of blood to the head; producing fulness and redness of the face

and eyes, with intense throbbing of the carotid and temporal arteries, and if caused by inflammation of the tissues the pain is more acute than that arising from inflammation of the substance of the brain, and I have found paralysis frequently accompanies this latter form.

The symptoms in inflammation of the brain or its membranes are very varied; the extent and duration of the disease, the age, the sex and constitution of the sufferer, all combine to give to the affection a variety of character, and in doubtful cases I advise a careful examination of the eyes, which will at once denote the state of things; also the general expression of the countenance should be noticed. The pupils of the eyes in the first stage are commonly found more or less contracted, but as the disease advances they often become dilated. Sometimes the attack is preceded by premonitory symptoms, such as obstruction of

the circulation of the blood in the head, which is frequently by many considered to be congestion, and is attended with sensations of weight or stupifying, with constrictive, and sometimes shooting, pains in the head, and sometimes attended with slight feverish symptoms; also ringing in the ears, which lasts for about seven days, with giddiness and a sense of weight on the top of the head, with a rather quick pulse and hot skin, which is generally increased at night, attended with considerable restlessness and difficulty experienced by lying long in one position, with a disposition to become irritable and annoyed at trifles. Anomalies in the mental powers may now be observed, such as drowsiness with slight delirium, or very considerable amount of excitement, aggravated by the slightest noise, and the eyes looking brilliant and animated, or sometimes bloodshot, with intense redness of the face, violent delirium, which varies

according to the seat of the inflammation and the constitution of the patient. The fever which accompanies this class of case varies in its intensity; the pulse is also very variable, changing frequently during the day —sometimes regular, at others intermittent— and quick and weak, or slow and strong. A very slow or a very quick pulse may be regarded as an indication of danger. The patient generally complains of heat in the head, whilst the extremities are cold. In case of stupor, or a tendency to it, the eyes have a heavy look and are void of all expression; at this stage vomiting not unfrequently occurs and proves very troublesome; the stupor becoming more intense, till convulsions sets in, followed by death.

The causes of this terrible malady may be attributable to irritation of the brain by extreme heat or cold; intemperance, especially the abuse of ardent spirits; blows on the head; concussions from falls; mental emotions

or overtaxing the brain; by excesses of all kinds; and I have seen some most shocking cases of metastases, the last of which I shall never forget. A fine healthy lady of 36 years of age had been suffering from an attack of rheumatic gout in her foot, for which she was being attended by a medical man in her village, who told me she appeared to be doing remarkably well when he last saw her about ten o'clock in in the evening, and I was summoned at two o'clock in the following morning and found her in this distressing condition, and on examining her foot, found all the inflammation and swelling had disappeared.

Generalis consensus observatur inter cerebrum et totum nervosum genus, que ideo inter cerebrum et universum corpus, quod profecto nil mirum, quippe cugûs omnis vis derivetur a cerebro. Porro consensus vix minus generalis intercedit inter ventriculum et totum nervosum genus.

Treatment. We should at once commence with aconite, and give it frequently, when the skin is hot and dry, pulse rapid, with the usual indications of inflammatory fever, which is frequently the case in young subjects of full habit; and as soon as the pulse assumes a little softer form, and the skin begins to act, give belladonna in alternation, say, in acute cases, every half hour until the severity of the symptoms subsides, and then treat the indications as they arise, selecting from the following medicines the one to which the symptoms point: opium, cuprum aceticum, hyoscyamus strammonium; belladonna undoubtedly produces a certain specific influence over inflammation of the brain, especially when there is great heat of the head, with a red bloated face and sensitiveness to light and noise, and red sparkling eyes with protrusion or wild expression, violent and furious delirium.

I will now bring under my readers'

notice another most interesting, though harrowing, form of nerve disease, or, more properly speaking, disorganisation, which is so frequently overlooked by the general practitioner, and often confounded with hysteria, thereby causing additional distress to the patients and the patients' friends. In our days, when a female between fifteen and about forty-five years of age becomes what is termed a confirmed invalid, and no absolute organic disease can be detected, the evil is at once put down to hysteria — the distinguishing symptoms of which I will say something by and bye —and of course is treated in accordance with the views entertained by the medical practitioner in attendance. Hence, her friends believe the malady to be an affection to a great extent under the control of the sufferer, and frequently adopt all kinds of extraordinary, and I regret to say occasionally harsh, measures for its cure.

Now I do not envy the conscience or feelings of the practitioner who, after all this, finds his patient in a worse state than when he commenced treating her, for there is no question of doubt in my mind that pain and suffering, whether real or imaginary, are equally hard to bear, and should ensure the same sympathy on the part of the relatives and the medical attendant, who should be especially careful never to venture a prognosis until he has well weighed all the circumstances connected with the case.

The following example will, I think, illustrate my meaning:—

The daughter of a respectable tradesman, aged twenty-two years, who resided in a part of the country I then lived in, having become, as her friends and neighbours all agreed, a confirmed invalid, her parents, moreover, having exhausted all their means in obtaining various medical opinions with-

out deriving any benefit, had determined, as they expressed it, to leave her in the hands of nature. The subject, I need not say, attracted considerable attention in a country place, where people are so deeply interested in each others' affairs, and the fact of my having been called to that part of England gave her friends the opportunity of seeking my opinion on her case. I will ask my reader to imagine the astonishment of her friends when I gave it as my opinion there was not a particle of hysteria in her case, beyond the fact, as I shall presently point out under that head, that all females are more or less liable to occasional attacks of a semi-hysterical character. The seat of her trouble was principally confined to the sympathetic nervous system, especially its ganglia. This system derives its name from the Greek *Συμπαθεία* ("*συν*" "*with*," and "*παθος*" "*affection*,") that relation of the organs

and parts of the living body to each other whereby an action excited in one part induces a corresponding action in another part. By what means and by what structures this result is brought about is a problem which has occupied the pen and thoughts of a vast number of scientists. The sympathetic system may be arranged into the reflex and the direct, the former arising through the instrumentality of the semi-nervous, the latter taking place independently of it, through the medium of the ganglial nerves, and chiefly by those which are distributed through the blood vessels, and which form communicating cords between the viscera. In order to elucidate the latter class of sympathies, *viz.*, those which are direct, and chiefly consist of the sympathetic action of organic life, it will be necessary to dwell a little longer on the scientific aspect of the subject.

It is considered that the ganglial nerves alone supply the blood vessels and the secreting organs and surfaces, that they accompany these vessels to the utmost limits of their ramifications, that they communicate very freely with each other and with their chief, the semilunar ganglion; that they give rise to numerous plexuses, which render the connection between them still more intimate, and that they hold a close relation with the rest of the nervous system, by means of communicating nerves. Thus, the mutual interdependence of action between the chief organs of the body in health and disease, may be easily explained. It must, moreover, be granted that the most important vital phenomena, such as digestion, assimilation, circulation, secretion, animal heat, &c., &c.—in short, that life itself with all those manifestations of it now particularised, and which have usually been called organic,

result from the influence exerted by this part of the nervous system, through the instrumentality of the vessels upon the fluid they contain, and in some measure reciprocally by this fluid upon these nerves ramified in the parieties of the vessels, and upon the ganglia themselves, through which the fluid must, of course, circulate. The agency, therefore, of this system in the production of the class of symptoms under consideration must be evident. From this view of the subject, and if we take into account the modifying operation of similar textures, the action of various organs, and certain other circumstances, the combined influence and reaction of the sensorium, the numerous relations and connections of healthy functions and of disordered action may be more satisfactorily traced. When an organ, or system of parts, is excited to increased action, or when its operations are diminished or obstructed, we perceive

all the other parts of the system which communicate with it through the medium of the gangliæ system, experiencing a modification of their functions, the actions of one or more organs having always an evident relation to the kind and degree of action going on in the other. In these cases the relation is sufficiently manifest, but the kind and degree of it may vary very greatly between different organs. Further, the relations may be of the following sorts, as the vital energies distributed throughout the system are affected in degree or in kind, or in both ways at the same time. Related action may be characterised by a due proportion, or a healthy degree, of the vital forces of the whole system; nevertheless, owing to the application of an exciting cause to one organ or part, or to two or three organs, these forces may be greatly increased in them. As, however, the healthy, or

medium quantity, of the vital forces of the body is not supposed to be exceeded, there consequently must be a diminution of those forces throughout the other parts of the system in proportion to the increase in the excited organs. When the natural functions of one organ are simply excited without being diseased, the function of other organs with which it holds communication, by means of the ganglial nerves, undergo a relative degree of change. For the excitement of a viscus is merely an exaltation of its vitality, and as we exalt the vital energy in one or more departments of the entire series, we diminish it throughout the rest in an equal proportion, the excitement being frequently greater or less in some parts, and the demonstrations more or less confined to others. For the sake of illustration, let us suppose the vital energies of the system to be equal to 50, and through means of the organic

or ganglial nerves to be distributed as follows:—to the stomach and intestines, 7; to the heart, 1; to the vascular system and lungs, 8; to the brain and voluntary nerves, 7; to the liver, spleen, and pancreas, 6; to the urinary and other organs, 7; to the surface of the body, 3; to the rest of the body, 11. We may then consider that energy is duly proportioned. But if, owing to the application of certain excitements to one or more organs, as, *e.g.*, the stomach and intestines, we exalt the proportion bestowed on these to 13, we shall consequently find the brain and voluntary nerves possessing only 3, the heart vessels and lungs, 7; the urinary and other organs, 3; the surface of the body, 2; and the rest of the body experiencing the loss of the remaining 1. If, again, we excite the vital forces distributed to the heart and vascular system until they amount to 16, we shall have a

febrile condition of the system in its simplest form, and all the organs will suffer a diminution in proportion; but the vital forces of the heart and blood vessels may equal 16, and in consequence of experiencing an undue proportion of increase, this organ may at the same time equal 10, or instead of this increase falling to the lot of the cerebral vessels, those of other viscera may be similarly augmented, whilst those of the remaining organs may be proportionally diminished. In such cases the result is less simple, but the increase of the circulation is followed by an equal diminution of the secreting functions. Viewing the sympathetic connection of functions in another direction, let us suppose that the excited state of vital action takes place in secreting organs. In this case the nutritive and other animal operations are diminished in an equal degree. Or let us suppose that the excitement commences in

the capillaries of an organ from the presence of an irritating cause; in that case, owing to those vessels being supplied with ramifications of the same order of nerves which supply generally, the excitement extends, more or less, throughout this system, &c., &c.

I am, however, digressing too far in the direction of theory. Having then endeavoured to prepare my readers to be the better able to follow my train of reasoning, and to comprehend that even with our present extended knowledge of this wonderful nervous system, which indeed surpasses all description, it is not impossible to meet with diseases so obscure as to present extraordinary difficulties. *Humanum corpus, fabricatum, arte prorsus divina, fungitur multis et miris muneribus; alia* (*scil. munera*) *quorum* (*sc. munerum*) *pertinent ad externas res, alia tantum, ad seipsum* (*se corpus*). Of such a character was the

following case, the seat of which, in my opinion, was confined principally to the sympathetic ganglia; and although, as we have shown, there exists an intimate connection between this and the cerebro-spinal nerves, still there were no brain symptoms, and I consequently at once set to work to effect a cure. The results I will append in the patient's own words, now before me, and dated some ten years after she became quite convalescent. She writes thus:—

"I was confined to my bed and room for five years, entirely helpless, could take nothing into my mouth without causing intense sickness and nausea, and had no natural sleep for two years. Nine medical gentlemen attended me during that time, and my friends, as well as myself, are quite satisfied that it was from your treatment alone that I am quite recovered and in the enjoyment of good health." She then adds, that just at that time she did

not feel quite so well, in consequence of having to work much harder, and at the same time suffering under a bereavement, the loss of her father, who was found dead in his bed, a catastrophe which occurred so suddenly that even her mother, who was by his side, was not aware of it. This is important to keep in mind, because it is generally admitted that mental emotion is one of the prime causes of hysteria. Had she, therefore, been of that disposition and temperament, or so constitutionally inclined, there could be scarcely anything more likely to produce or bring on an attack. My readers doubtless will realise the full significance of this case. Here was a woman who had suffered, not five weeks, nor five months, but five long years, or the fourteenth part of her allotted life, and who, under proper treatment, was enabled to rise from her bed of agony, and not only to enact her part in the world, but

also to perform severe manual labour, and to bear up against the strain of a great grief.

The next case I will mention was that of a young person who had enjoyed most excellent and uninterrupted health up to 29 years of age, when, on returning from her employment, where she had been engaged many years as mantle maker, she was overtaken by a severe storm, and thoroughly drenched, and then, being compelled to remain in her wet clothes, she received a severe chill, from the effects of which she seemed to recover, with the exception of complaining of loss of power in her hand when attempting to lift anything, and this feeling originally extended to her legs, so that she felt as though, as she described it, she was always walking up a hill. These sensations continued until she was compelled to lay up altogether. When I first saw her she

had been confined to her bed for two years, and she told me that she had never before suffered from any form of indisposition of sufficient importance to interfere with a close attention to business. She was quite clear in her mind, and informed me that she had gone through an immense amount of torture both in mind and body; in mind, from the fact of some of her dearest friends having deserted her for upwards of twelve months; and in body, from the various experiments she had been subjected to, such as setons, blisters, actual cautery, which, though performed with an exceedingly bright and nice-looking instrument, made hot in a most clean and scientific manner by means of a spirit lamp, was just as uncomfortable to bear as though she had been burned with an ordinary red-hot iron. I have on record several other cases of this kind, which I should like to detail did space permit. It

seems impossible to imagine such a method of treatment in this enlightened age, and I do not dare to trust myself to comment upon it, lest I should expose myself to the charge of being uncharitable—a charge I am anxious to avoid, as I fully recognise the value of the golden rule, that any error of judgment on the part of a practitioner should not be regarded as an offence, inasmuch as he may be assumed to have done what he considered best for his patient. If I find fault at all with my opponents, it is not because of an error of any judgment, but because they are not open to conviction. They are virtually believers in the infallibility of a Galenic system, nor will they condescend to learn. How different was the spirit evinced by Michael Angelo, the great sculptor, painter, architect, and poet, who, at the advanced age of ninety, was walking in the Colosseum of Rome, and met a friend,

who expressed his surprise at seeing him there unattended amidst the ruins. His reply was in itself a lesson for sciolists: "I go to school," he said, "that I may continue to learn." I will here append the particular medicines I used in the above cases; they were these: *arsen.*, *strych.*, *conium.*, *nux. v.*, *coloc.*, *merc.*, *mosch.*, *k. iod.*, *ign.*, *spig.*, *sulph.*, *arn.*, *bell.*, and also *galvanism*, applied scientifically, a specific remedy I shall have occasion to discuss presently.

I will now say a few words on another and most distressing affection of the brain, Apoplexy, which derives its name from *αποπδησσω*, "I strike," from the suddenness of the attack, and it is most desirable that we should be able to form a correct diagnosis, as there are few diseases which possess such great varieties in form as apoplexy. Hence, so much having been advanced by most eminent medical writers,

from the fact of its being so extremely difficult to decide between the different varieties, from the very irregular external symptoms in relation to the internal injury, because the pressure on the brain from serous apoplexy so frequently produce the same symptoms as sanguineous extravasation, and, indeed, so may congestion of the vessels of the brain.

These attacks are frequently preceded by a strong inclination for sleep, heavy profound sleep, with stertorous breathing, shocks, cramps, with a feeling of heaviness and disinclination for exertion, the slightest exercise causing great fatigue, a sense of fulness all over the head, with vertigo and fainting, with throbbing of the temporal and carotid arteries, general disturbance of the cerebral system, loss of memory, irritability of temper, or sometimes wildness, despondency and crying, the conjunctiva presenting a swollen appearance, dimness of

sight, with specks before the eyes and flashes of bright sparks in darkness, and a vast many other abnormal affections of vision, also noises in the ears, such as singing, humming, &c., numbness, with a pricking sensation in the extremities, with mild attacks of paralysis of the face.

Treatment. There is no question of doubt, if only taken in time, much may be done to ward off this very terrible malady, such as bathing the feet in warm water, and cold applications to the head, with frequent doses of *aconite* and *belladonna* alternately, and other indications must be met as they arise. I will here give one case which came under my observation.

A married woman, aged 32 years, with three children, had always enjoyed most excellent health, no trace of insanity or any form of brain trouble in her parents or any member of her family, and generally considered of a general good temper; in

consequence of a domestic dispute, she suddenly gave way to a fit of violent temper, and when I was called to see her she was quite unconscious, and the medical man in her neighbourhood told me she was suddenly seized without any of the premonitory symptoms which I have described; and, what was most remarkable, she continued in an unconscious condition for twenty-two days and nights, and then shewed a slight disposition to rally, but again relapsed into an unconscious condition and continued so for fourteen days and nights longer; and then the symptoms changed, she became more restless and began to open her eyes and look about, and soon complained of great pain in the upper part of the spinal cord, want of power in her limbs, which gradually subsided, and she ultimately perfectly recovered and had a family of several children. The medicines which I found so

serviceable in this case were as follows:—During the congestive condition at the early stage, aconite in frequent doses, say from twenty to thirty minutes apart, told wonderfully in equalising the circulation, and consequently lessening the throbbing, and then with belladonna in alternation, supporting her strength with injections of beef tea made very strong, and followed by nux vomica, phosphate of strychnine, preparations of phosphorus, with a most valuable remedy as a restorer of nerve power, phosphoric acid, arsenicum, &c., &c.

ANGINA PECTORIS.

I will now briefly consider this most distressing malady, which has occupied the thoughts and pens of such a large number

of most able Pathologists. From the fact of it being such an obscure disease, many associate it with organic diseases of the heart and large vessels, which they consider to be the cause of this distressing malady; others regard it as caused by spasm of the diaphragm and other muscular structure, especially that portion which is most intimately connected with respiration; indeed, there are endless opinions on its pathology, causes, &c., but I think I shall spend the time of my reader most profitably by dealing with the effects and pointing out my own personal observations and suggestions. There is no question of doubt in my mind that the mainspring of this trouble is seated in the cardiac and pneumogastric nerves, which opinion was most firmly expressed by my lamented friend, Dr. Marshall Hall, and this is fully borne out if we consider the class of people most prone to it, *viz.*, men—it

seldom occurring in females—and free living, stout men, who have suffered from rheumatism and gout—particularly those who use their brains and suffer from mental anxieties—especially those who are in the habit of indulging too freely in the use of stimulants. I have been an eye witness to a good number of cases of this most painful and distressing malady. The attacks generally occur as follows:—The sufferer is suddenly seized with a most agonising pain in the chest inclining towards the left side, and painful feeling of tightness, and difficulty in breathing, almost amounting to suffocation; these attacks in the first stage generally come on after some extreme exertion, such as running, or walking quickly upstairs or a steep hill, and when it becomes more confirmed I have found a small amount of mental or bodily excitement, or error of diet, act as an exciting cause. In corroboration of this assertion I

will give one or two cases which came under my own personal observation. A gentleman, aged 38 years, of full habit of body and sedentary habits, was seized with an attack just after retiring to rest, and on my questioning him closely as to his mode of living, he admitted that he was fond of, as he termed it, good living, and regarded it as the only thing worth living for, and some few hours before this, his first attack, he had indulged freely in walnuts and port wine; after the third attack I succeeded in inducing this gentleman to carry out my mode of dieting and out-door exercise, gradually increased, and he did remarkably well for four years without an attack; he then expressed a desire to travel, and promised to steadily observe my directions; but alas, out of sight out of mind! Some eight months afterwards I received a most distressing letter from his wife, informing me that her husband had

relapsed into his old sedentary habits, and despite all her most earnest entreaties he persisted in his old custom of free living and drinking, and that he had had three attacks. Some eighteen months afterwards I learned that he had passed away in one of the attacks. The next case I purpose bringing under the notice of my reader was a gentleman, aged 56, who had discovered the baneful effects of stimulants and resorted to strong green tea, and ingeniously arranged a lamp kettle by which means he could brew his cup of tea at all hours; after a while I succeeded in convincing him that the tea did him as much damage as the stimulants, and he set it aside and carried out my suggestions for out-door exercise, with strict observance as to diet, &c., and he remained free from attacks for some four years, and I lost sight of him and have not since heard anything about him, so trust he is still

able to do without the physician. I could adduce other cases, but consider these two will be amply sufficient to support my opinion that the primary cause is to be found in the nerves.

I will now endeavour to impart to my reader my mode of treatment as concisely as possible, in order to keep within my limits of space. In full habits, when the face is flushed and pulse thumping away, I have found aconite in frequent doses, say every five or ten minutes, do much towards tranquilising the circulation. Digitalis also proves serviceable, allowing the patient only thin gruel to drink, and paying great attention to the secretions, giving preparations of mercury, podoph, &c., &c., and having due regard to the importance of getting the digestive system restored to a healthy condition as speedily as possible.

PALPITATION AND IRREGULAR HEART'S ACTION.

Having thus briefly dealt with this most distressing disease, I will now consider another troublesome affection or disorganisation of the heart, *viz.*, nervous palpitation, which often gives rise to much anxiety to the patient as well as the friends, especially when existing in an extreme degree, and may be felt and heard by the patient, and those looking on may perceive the thumping; and in some instances I have distinctly heard a little *bruit de soufflet*, and frequently attended with most distressing feelings of sinking; and in other instances there is a tendency to syncope, which is generally much dreaded; and I have found the abnormal sounds of the heart cease as soon as that organ becomes a little more tranquilised. And here again we shall find this trouble

proceeding from some irritant acting as a nerve disorganiser, and hence all who are predisposed to nervous affections are most prone to this trouble, and the exciting causes may be attributed to the following:—Anger, joy, grief, mental emotions; debility, resulting from excesses of all kinds, especially excessive discharges and drains on the system.

Quin humanum corpus subit multas et graves mutationes ab aliis causes, et, valetudine adhuc firma; et imprimis a genere vita et victu quo utimur, ab ipso codo quo degimus, et ab immensa vi conssueludinis oportet medicum novisse hoce quoque.

I am most desirous my readers should be quite clear on this most distressing state of things, so I will here give the details of some cases which have come under my own observation.

A gentleman of good means, aged 56, married, with a young wife and no family, a great chess player—indeed, he thought of

little else, save his stomach, to which he devoted much thought—applied to me in consequence of having such frequent attacks of most severe palpitation of the heart; and I will here give you some brief outlines of the history of his case received from his friends. During his early life he spent most of his time in sedentary pursuits, and at 23 years of age he was advised to take a long sea voyage, from which he derived great benefit; but soon after returning home he showed signs of relapse, accompanied with periodical attacks of palpitation of the heart, which increased to such an extent that the friends resolved to consult a specialist, who ordered him not even to attempt to walk up stairs, and for a time he used to be carried up to bed in an invalid chair and brought down the same way in the morning; his diet to be as nourishing as possible, with a liberal amount of stimulants, also some

most powerful tonic medicines and purgatives. After persevering in this manner for about twelve months, finding no improvement in his symptoms, he, with his friends, decided to consult me, and after carefully examining his chest, and satisfying myself that there was no organic disease and that the irregular heart's action was purely sympathetic, I set to work to do what I could for him. First directing them to at once remove from the room and his sight the invalid carrying chair, I ordered him plain nutritious diet, selecting those things of easiest digestion such as game, white fish, milk puddings, Scotch oatmeal, porridge made after the Scotch method, and not at once stopping his accustomed stimulants, but gradually reducing the quantity, and ultimately dispensing with them altogether, and insisting on his taking out-door exercise in all weathers, commencing with a few minutes twice a

day, and gradually increasing it till he got strong enough to ride a cob once during each day and walk once; and I shall never forget the sensation it caused amongst his circle when it came to this, which was occasionally interrupted by the interference and advice of his friends, who became uproarious at the idea of his actually riding horse-back with his affection of the heart; which of course was done with the kindest intention on their part, little knowing that by so doing they were prolonging his recovery, to say nothing of the painful annoyance such interference, however well-intentioned, causes the medical man who has the charge of the patient. But during the latter part of my life I have spared myself this by simply declining to listen to any such suggestions, and persisting in my orders being carried out or allowing me to retire from the responsibility of the case, which occurred no less

than three times with this patient, until the improvement was so manifest that the friends ceased to interfere, and in the course of some twelve months my patient, finding he derived so much benefit and comfort, continued steadily to adhere to my directions; and the last time I saw him, which was some six years after I had ceased to attend him, he then said he enjoyed most excellent health, and had not felt the least trouble with his heart since.

The next case was that of a lady, whose husband having a Civil appointment in India, compelled them to reside there for many years; and, according to her own diagnosis, she had confirmed heart disease, and consulted a specialist, who, finding on examining her chest some abnormal sounds, gave a very solemn view of the case to her friends, also persisting in her being carried up and down stairs and ordering most powerful and horridly nauseous drugs.

First, having thoroughly satisfied myself that I had no organic disease to treat, I gave a most favourable opinion of her case to her and her friends, and set to work to cure her; and the medicines I found most useful in these cases were phosphate of strychnine, ignatia, pulsatilla, arsenicum, podoph. The phosphate of strychnine proves most serviceable when there is constipation of the bowels, owing to torpidity of the liver, which renders the secretion of bile scanty and defective; ignatia answers admirably when the nervous system is overwrought, especially if accompanied with lowness of spirits and tendency to shed tears; the podoph is indicated, after taking the phosphate of strychnine for a few days, returning to it again; there are also a vast number of most valuable medicines which prove most serviceable to meet indications as they arise.

Spasmus est causa et effectus, et scape

maxima pars multorum morborum; aliqnando pariter difficlis cognitu sanatu; nimirum que induat tot formas et edat tam varia signa, prout affecerit varias partes corporis.

ENCEPHALITIS

Derives its name from εγκεφαλος, a word used by the Greeks in the same manner as we use the word brain, and which we understand means inflammation of the brain and its membranes, and sets in in different ways in different subjects. In some forms it begins with acute pain in the head and intense delirium or nausea, and even bilious vomiting, or with a paroxysm, convulsions, or loss of speech. This is said by authors to be very rare, in which I am inclined to agree, as I have only seen one case in the whole course of my extensive practice,

and I will here give my readers a few symptoms by which they will be able to diagnose this most terrible complaint; such as most excruciating pain in the head, violent throbbing of the temporal and carotid arteries, face flushed, eyes injected and brilliant with contracted pupils, and wild expression of the countenance, intolerance of light and sound, constant watchfulness, want of sleep, fierce delirium and convulsions; a hot dry skin, and frequent hard pulse varying in its character (in some cases full and others contracted); the tongue is generally red and dry, and not unfrequently covered with a white fur; craving for drink; these symptoms are during the period of excitement, which generally continues from one to three days, and are followed by collapse, or state of stupor, with low muttering delirium, defective vision, pupil insensible to light, twitching of the muscles, some degree of paralysis,

loss of control over the secretions, cold sweats and death.

In treating this class of case it should be borne in mind that the first thing to be done is to check the rapid and excited circulation of the blood, not by copious bleeding as practised during my student days, but by giving aconite and antam tart alternately every half-hour and ice bags to the head, allowing the patient barley water, oatmeal gruel, sago, and such like, clearing out the bowels by an injection; and in some instances, cold lotions would be found useful applied to the head, which should be cleanly shaved; excluding the light from the room; all noises and everything that appears to startle or irritate the patient should be studiously avoided, of course lessening the frequency of the medicines when the urgency of the symptoms subside, especially when the period of torpor or collapse sets

in; then, should the pulse remain hard and frequent, give the aconite, say every half-hour or oftener, till the pulse is softened down, and when the symptoms of excitement have passed away, and insensibility and torpor remains, if there should be extreme collapse, wine and brandy should be given, with good strong beef-tea and other nourishing things, and at this stage belladonna proves valuable, but the patient must be carefully watched and never left for a minute.

Mala hujûsmodi pendentia a satu venarum et arteriarum accidunt frequentius eo quod multi senes jiunt plus pleni sanguine justo scilicet qui seape bene valent et concoquunt bene, et indulgent lautioribus epulis, et exercent corpora parum et habent parcam exhalationem per cutem plurima vasa et foramina cujûs ninsirum fere concluduntur.

DISORDERS OF THE MIND,

Of which there are a great variety, *viz.*, Mania, Melancholia, Hypochondriasis, Delirium Tremens (furious madness, melancholy vapours, low spirits, drunkards' delirium), which I purpose dealing with in the order in which I have placed them above.

Mania (Maira, derived from the Greek *ραινοματ*, "I rage"). This disease is said by some authors to come on suddenly, but in my experience it has come on slowly and almost imperceptibly, with a period of incubation varying in extent from a few days to as many months or years, and the symptoms during this period of incubation are change of thought, habits, taste, temper, and affections, the patient becoming by degrees the reverse of his former self, and as a matter of course his general health

suffers, in consequence of losing the appetite and sleep being disturbed, with disturbance of the digestive system, and consequent defect in the secretions; the tongue is furred, the pulse generally quick, with loss of flesh and altered features, and frequently complains of pain in the head, confused ideas, loss of memory, irritable temper, and wretched consciousness of failing mental power, which frequently takes flight shortly before the disease becomes marked.

After these symptoms have lasted for a longer or shorter period, without attracting much attention, some unusual excitement or circumstance of not at all an important nature will bring on a decided attack of mania. I will here give a few of the general symptoms, which, whether beginning suddenly from strong excitement, or the result of bodily disease, or coming on slowly after a long period of incubation, are as follows:—Uneasiness, anxiety, restless-

ness, sleeplessness, alternate excitement and depression, and in some instances continued agitation, with violent muscular efforts, quite incoherent discourse, loud laughter or shouting, grinding of teeth, spectral illusions, mental delusions, intense antipathy to certain individuals, more particularly to relations or great friends, with a peculiar wildness and fierceness of the countenance, the eyelids widely opened and pupils dilated, the eyes glistening and unsteady, and strongly marked and flushed countenance, frequently complaining of severe pain in the head and giddiness, loud noises in the ears, with bright spots before the eyes. The sensations are generally more obtuse than usual or they are disregarded, as that the sufferer will bear the most intense cold or heat, prolonged abstinence from food or drink, and long continued want of sleep. The bowels are generally confined, the tastes often depraved, variable appetite and

filthy habits, the tongue dry and furred, the pulse very frequent, quick and often full, the skin emitting a peculiarly offensive odour.

Some sufferers from this distressing malady have lucid intervals, which recur with regularity, and others just as irregular, and they are under certain circumstances capable of considerable self-restraint, and of concealing their delusions or designs, and they will carry out their plans with the cunning of most sane people.

The causes, so far as the most able and experienced physicians are able to judge, are:—Hereditary predisposition, violent and stimulating emotions of the mind, uncurbed and immoderate indulgence of the passions, violent exercise, frequent intoxication, hard study, suppression of periodical and other evacuations, long continued discharges, parturitions or lactations, diseases of the brain, which sometimes precede attacks of

epilepsy, febrile movements, &c. Having thus given my readers the outlines by which they would be enabled to distinguish this sad malady from other troubles, and finding space will not admit of my enlarging, as I could wish to do, on such an important and interesting class of disease, I must content myself by briefly summing up the treatment as follows,—keeping the patient perfectly quiet, and treating the urgent symptoms as they arise, keeping in mind that aconite will supply the place of the lancet, which is so freely resorted to in these cases by some practitioners, and never by any chance allow the patient to be left alone for a single minute. I will here give a case. Some years since I was attending a severe case with another medical practitioner, and whilst in the drawing room below, strongly urging this on the minds of the friends, who considered it very severe on the patient, as he seemed

so very quiet, and had been so for some days, the patient made a rush at the window, which his attendant had slightly opened, and would have precipitated himself from it had not his attendant been just in time to catch hold of his legs, his body being more than half out of the window, which was of the third storey in a very high house; of course death would have been the result. Therefore I always advise this class of case to at once be removed to an asylum, and placed under the care of those who from their long experience in the treatment and management of such cases, are able to do all that science can suggest for the sufferer, and at once relieve the relatives and friends from the heavy weight of responsibility; and happily in this enlightened age we have a large selection of institutions suited to the poor as well as the rich.

I will now say a few words on Melan-

cholia. In its well marked form it is one kind of monomania, and characterised by dejection of spirits, fondness for solitude, timidity, fickleness of temper and great watchfulness. In one form of this disease the sufferer refers some bodily sensation to some imaginary and impossible cause, such as living animals or even persons in the stomach or bowels; to this class, and especially the less severe forms of this disorder, the term Hypochondriasis, which derives its name from the Greek ὑποχονδριακος, "One who is hipped," is often given; the mind pursues one certain object or train of thoughts, which in general bears a near relation to the melancholic himself, or to his own affairs, creating the most groundless yet anxious fear and generally accompanied with a desire of terminating his existence. The cause of this malady may be traced to the digestive system and want of nerve power, which is undoubtedly the main-

spring of the complaint, and at once points to the treatment, which should be of a moral form, consisting in changing the scene, amusing the mind and diverting the attention as much as possible from the existing train of thoughts, travelling, rural sports, society, conversation on favourite topics; particularly music, if it should be in accordance with the taste of the sufferer; and in all cases of a suicidal tendency a most careful watch should be kept. The medicines which I have found most valuable in this class of case are strychnine in various preparation, especially the phosphate ignatia, arsenic, nux vom, moschus, &c., &c. I will now briefly consider delirium tremens or drunkards' delirium, which unhappily is so constantly coming under the notice of the physician. The leading symptoms are as follows:—Sleeplessness, restlessness, delirium, during which the sufferer recognises those about him, answers questions rationally,

and does hurriedly what he is told to do; trembling of the lips, hands, and muscles is generally present, especially in speaking or on making any effort, incessant talking, evincing a great desire to be doing something, and fancies he is surrounded by enemies, or that he is in a strange place from which he is constantly endeavouring to escape, or he thinks some great evil is impending or has befallen him, and is suspicious of those about him, and is tormented with frightful images or sounds, and will often be found looking in unlikely places after some object on which his mind is intent. He is seldom violent, at least in the best marked cases of this disease, but he sometimes exposes himself to danger in endeavouring to make his escape. The skin is generally active with a moist and slightly furred tongue and a frequent pulse. In fatal cases the delirium often passes into coma and the tremor into subsultus

tin dium, and the evacuations become involuntary.

Treatment. The most successful cases which have come under my observation were treated by soothing remedies, affording nature time to eliminate the poison from the blood, and supporting the system with fluids such as barley water with lemon juice; beef tea, clear and not too strong; a liberal supply of gruel made with the ordinary oatmeal, and milk in place of water if suitable to the patient; and all who entertain the old system of letting the patient's drink be brandy and his food opium, I would strongly advise to pay a visit to the hospital which I have before referred to, and satisfy themselves as to the value of their treatment above that of the old school.

HYSTERIA.

We will next proceed to consider Hysteria, which derives its name from the Greek word ὕστερα, which signifies the organ from which this disease was supposed to arise, and with which there is little doubt it is most intimately associated. Hysteria produces convulsions and insensibility, like epilepsy, but not a continuance of the insensibility. After the convulsions are removed, and in the midst of the insensibility, there follows such symptoms as sobbing, crying, laughing, and shrieking, but particularly before and after the fit, and we generally find the insensibility to have been incomplete, the patients having some knowledge of what is going on around—at all events, during a portion of the time occupied by the seizure. There is also experienced a sense of choking, as if

there were a ball in the throat which they can neither get down or bring up, together with irregular breathing, so as to cause violent panting, the chest heaving up and down. Frequently, also, they are afflicted with hiccough; generally there is a rumbling noise in the bowels, with a sensation as though a ball was rolling to and fro, till at last it comes to the epigastrium, and from thence rises to the throat, where it sticks. At this point the convulsions begin, and these symptoms subside; the bowels then seem to swell, and to such an extent, that sometimes in a few minutes the sufferer will be filled with wind. There are also violent palpitations, just as in epilepsy. These fits, moreover, come and go in rapid succession. There is not merely one systematic fit, after which relief is experienced, but a succession of fits, with occasionally extreme tenderness, not during the fit simply, but during the time the

sufferer, if a woman, is subject to these fits, and it extends over the whole surface. If we press ever so lightly on the chest and abdomen we cause painful sensations, which are felt more or less in the extremities, and particularly in the trunk—a symptom which has often been mistaken for inflammation, and hence requires a great nicety of judgment in forming a correct diagnosis. Sometimes when patients are seized they become so violently delirious as to lead a stranger to imagine that there was phrenitis—an "inflammation of the brain and its membranes," which, of course, would require more active and prompt treatment. Sometimes, from the violent affection of the voluntary muscles, patients experience a sensation of extreme pain fixed in some part. This is called, technically, *claveus hystericus*—a sensation resembling that of a nail being driven into the body, which, no doubt, is to be referred to the

generally diffused morbid sensibility of the surface; only that, instead of being diffused, it is confined to one spot, and is, therefore, more acute than when diffused. The patient, moreover, is subject to involuntary movements of the body, and sounds in the ear, together with a whole host of symptoms which I must forbear entering into; epilepsy being a disease which only occurs in certain individuals, and as it would seem from a certain degree of predisposition, any mental emotions will cause more or less hysteria in females. Anger or grief, especially grief from disappointed love, are amongst the most common causes.

I hope this rapid digest will enable my readers to distinguish between this and other forms of disease, keeping in mind this important principle of diagnosis—*viz.*, that in hysteria the convulsions can be brought under control by a strong effort of the will, whereas in epilepsy they are

altogether involuntary; at any rate, it will suffice to assure them that experienced medical men are, or ought to be, able to distinguish this form of disease from any other the various symptoms may resemble. With regard to the treatment, I must frankly confess I cannot boast of being very far in advance of my neighbours; but there is no question that success greatly depends on being able to remove as far as possible the exciting cause, and exercise a certain amount of moral influence on the patient. The medicines which I have found most useful are *ign.*, *mosch.*, *arsen.*, *nux. v.*, *valer.*

EPILEPSY.

We will now proceed to consider epilepsy, which derives its name from the Greek

'μεπιλαβανω, and is so named from the suddenness of its attack.

There are two kinds of this dreadful malady, one severe form named by the French *le grand mal*, and the other, a milder form, *le petit mal*. Much has been written and said about the period of life most susceptible to these attacks; but, in my opinion, which is the result of many years' observation, the question is involved in uncertainty; at any rate, I have not been able to corroborate many assertions of pathologists, having arrived indeed at quite an opposite conclusion — *viz.*, that these attacks may occur at any period of life, from infancy to old age. It may fairly be stated that, as a rule, they more frequently commence before puberty; and as regards duration, the fits generally last from a few seconds to three minutes, and recur at variable and most irregular intervals. In most cases the fit is

unexpected, and preceded by no warning, but in other instances there are symptoms perceptible by the patient himself, or by those around him, which give notice of its approach, such as irritability of temper, disturbance of the senses, ocular spectra, and what is described as the epileptic *aura*, or a creeping sensation arising in some part of the surface, generally of the extremities, and gliding towards the head. This warning precedes the paroxysms at variable intervals, from a few seconds to some hours.

A few illustrations will perhaps best explain the phenomena of this disease. A young gentleman aged twenty-one years, coming from a long distance, was placed under my special care, with positive directions as to the mode of treatment. The seat of the disease having been traced to the spinal cord, irritants were advised to be applied to the spine, and he was ordered to be

kept quiet in bed, on some occasions for weeks together, and to go out occasionally only for an airing in a bath chair. Now there were abundant reasons to lead a merely casual observer to adopt this treatment, and the diagnosis was in a manner correct. There was unquestionable irritation in the spinal cord, but that was not all. I found the most distressing symptom of this case was an occasional tetanic twitch, which often occurred at meal times, when he would give a violent start, clearing his portion of the table, and running the risk of depositing various articles of diet in his neighbours' laps—a kind of *faux pas* not likely to be appreciated by the fair sex, to say nothing of the start or shock sustained. The consciousness of this so acted on him as to frequently prevent his making a proper meal. However, he being one of those nice, gentle, tractable patients, whom it seldom falls to one's lot to come in

contact with, I had no difficulty in getting him to carry out my instructions to the letter. After carefully watching him for some time, I arrived at the conclusion that the seat of trouble, or exciting cause, arose from the stomach being distended either by food or gases, the result of the decomposition of some portion causing pressure on the semi lunæ, or largest sympathetic ganglion in the body (so named from its shape), which is situated behind the stomach, and was transmitted to the spinal cord, which is, in fact, what the late Dr. Marshall Hall termed the reflex action. *Igitur omnis irritatio ventriculi, distentio, veluti ab onere crudi cibi, prava concoctio, obstructio circa inferius ostium, omnia acria recepta in eum, morbi jecoris, intestinorum, renum, uteri, capitis, pedum, universæ cutis, et sane universi corporis; inflammatio, calculus, regius morbus, scirrhus, apoplexia, compressio, fractura calvariæ, vertigo, syncope, immanis dolor,*

podagra, imprimis repulsa, febres affectus animi, demum imagines vel descriptiones fastidiendæ saepe inducunt nauseam et vomitum. (This accounts for the sudden death caused by a blow in the epigastric region, especially when the stomach is distended.) Thus by regulating his diet, promptly meeting any indications as they arose, substituting the bicycle for the bath chair, and field sports for lying in bed, his case terminated most satisfactorily. In corroboration of this I need only say that he became an active young man, could jump on his bicycle, run a distance of eleven miles out of town, walk with a shooting party for some hours, and return home on his bicycle with an appetite for dinner. Indeed, his physical powers were equal to the task of walking down a regular sportsman. This I can testify from personal observation on the Scotch moors, where we enjoyed together some excellent grouse shooting, he being

devoted to his gun and a good shot.

Another case was that of a young lady of considerable personal attractions and rather a perverse disposition—a common accessory of this form of disease—who would persist in taking a hearty meal just before going to bed. *Appetitus cibi (est) varius etiam admodum sanis, nonnunquam intenditur in mirum modum, ita ut habeatur non immerito morbosus. Rarum genus mali, tamen nonnunquam observatum, et creditum oriri vel a longa inedia, vel ab ingentibus exinanitionibus (rubi revera esset opus subsidio majore solito), vel ab quodam acri genito in vetriculo, aut recepto in eum, que stimulante eundem nimis, vel a læsa imaginatione, vel denique a prava consuetudine. Enim est non dubium homnies evadere avidiores et capaciores cibi usu solo.* The unfortunate part of the business was, that I could not succeed for a long time in convincing her friends that this course, if persisted in,

would *negative* any efforts on my part to render her assistance; and, indeed, despite all my explaining, and reasoning, and pains-taking—for I felt deeply interested in this case—her friends would coolly reply, "that they thought it very hard that she could not be allowed to eat and drink when so disposed, and felt sure the constitution would be ruined if she did not take nourishment often." This class of difficulty is of very common occurrence. It is, of course, quite natural that friends, regarding the case from their nervous point of view, should entertain altogether erroneous ideas; but I venture to find fault with them on this ground, that they ought not to presume to dictate to the experienced practitioner, nor trifle with his time, which might be so much better occupied amongst those of his patients who are willing to obey his directions. However, after a while I succeeded in getting this perverse patient

faithfully to carry out my instructions, and I need scarcely add, when once she found herself benefited by so doing, I had no further difficulty with her; indeed, for some months before she left this country for India, she proved to her friends that these attacks were to a great extent most unmistakably under her own control, since they were brought on by her own imprudence; and thus she obtained immunity from frequent and most distressing attacks of convulsions during the night, which, of course, necessitated not only continual attendance, but plunged a whole household into a state of the greatest excitement, and induced them to incontinently rush for the doctor. I ought to mention, that for several months before this lady left England she had no attack, nor have I heard of her relapse.

The next most remarkable case was that of a gentleman, aged 33 years, who

suffered intense pains, in consequence of allowing his great toe nails to grow to such a prodigious length, that they turned completely round, like rams' horns. The points pressing on the under-part of the foot entirely prevented his walking, and whenever I attempted to examine these nails, the very instant they were exposed he would be seized with a fit of convulsions. Strange to relate, I was the only medical man he could be induced to allow to approach him, and after considerable trouble I was at last able, under the influence of chloroform, to remove the nails with bone forceps, thereby enabling him to walk with ease and comfort, the result being that the fits entirely left him.

PREDISPOSING CAUSES OF EPILEPSY.

It is time, however, that we should glance at the predisposing causes of this most terrible complaint, epilepsy, such as insanity in parents or ancestors, scrofula, malformation of the head, in the male sex nervous debility, dissipation, intemperance, and violating Nature's laws by other indiscretions. *Autem haec lex Naturae, hoc consilium; ut singuli homines pereant, humana gens floreat. Hinc sexus, hinc generatio et proles, et quicquid suavis, quicquid amari alma Venus habet.* Those who are suffering from this malady should ask themselves if they have been guilty of excess, and, if so, to what extent; and I would urge them at once to waive all scruples and

false delicacy of feelings, and so make a clean breast to their medical adviser, in whose sacred depository they may with full confidence lock up all the secrets of their hearts, and so place him in a more favourable position to render them relief. I am disposed to think the milder exhibition of that tetanic twitch by which, as I said, my young patient and friend used occasionally to clear the table, did, as suggested, proceed from irritation in a certain portion of the stomach, which was transmitted to the spinal cord and reflected to those muscles which enabled him to perform this very ungraceful movement, and was independent of the brain. For this view I am indebted to Dr. Marshall Hall, whom I assisted in performing a great variety of experiments, gaining thereby valuable information concerning the nervous system. Hence, as he clearly shows, such symptoms may be, and indeed are, produced by an

influence carried to the spinal cord from the extremities of nerves distributed upon the internal and external surface of the body. A nervous circle, as it were, is thereby formed, by which an influence is carried from the surface of the body along the nerves to the spinal cord, whence an influence is transmitted and returned, which he very properly designates reflex action. The exciting causes may be mechanical, chemical, or mental *stimuli*, especially the effects of joy and surprise, sudden fright, fits of passion, or any vehement emotions of the mind, irritation, determination of blood to the head, worms, dentition, acute pains, exposure to the sun, excessive evacuations, or suppressions of accustomed discharges, pressure on the brain and nervous system from various other causes, such as irritant poisons, &c., &c. The mediums I found most serviceable were *strych.*, *arsen.*, *nux v.*, *ign.*, *cupr.*, *argent. nit*, *conium.*, *bell.*, *merc.*, in various preparations.

EXPERIMENTS ON DIGESTION.

A vast number of other cases of varying interest have come under my notice, and I will add that the greatest difficulty I have to contend with, has been the absurd notion generally entertained by friends, that it is so essentially necessary to keep up the patient's strength by constantly crowding the stomach with a variety of articles of diet, and thus keeping its coats in a perpetual state of excitement. I have so seldom succeeded in convincing persons ignorant of medical science that the stomach requires rest as well as the other organs of the body, that for the benefit of my readers I will here glance briefly at the physiology of the stomach. *Varietates hujusmodi, non modo corporis, verum et animi quoque, observantur, pleremque congenitæ,*

nonnunquam hereditariae. Hoc modo parentes saepe reviviscunt in prole; certe liberi sunt similes parentibus, non modo (secundum) vultum et formam corporis sed indolem animi, et virtutes et vitia. First, then, when we take a morsel into the mouth, and commence masticating it, what are the changes which take place? The act of mastication stimulates the various salivatory glands, which pour forth their secretions into the mouth to be absorbed by the food. During this operation, by which the morsel becomes chemically altered, the stomach on its part undergoes a change. Instead of being pale and flaccid, as it was before, it becomes congested and vascular. This is caused by the determination of blood to its surface, and results in a secretion being deposited in the stomach, called gastric fluid, which, during that peculiar churning motion of the stomach, becomes intimately mixed up with the food.

The action of the gastric fluid on various kinds of solid food has been the subject of much consideration and of many experiments, which the limits of this pamphlet will not admit of my entering into. Doubtless my readers are already aware that it was a common custom to feed various animals, especially dogs, on different substances, and then to kill them at varied intervals, with a view to ascertaining the changes produced; but this method was not satisfactory, from the fact of these appearances being influenced by the manner in which the animals were put to death; but Dr. Beaumont gives some most interesting experiments on his patient, named St. Martin, who, I believe, received a gunshot wound, leaving a permanent kind of fistulous opening communicating with the stomach, whereby he clearly shows the process of digestion is so rapid during health, that a full meal, consisting of

animal and vegetable substances, may nearly all be converted into chyle in about an hour, and the stomach left empty in two hours and a half. I will append examples from his two days' experiments:—

"April 7th, 8 a.m.—St. Martin breakfasted on three hard-boiled eggs, pancakes, and coffee. At half-past eight o'clock Dr. Beaumont examined the stomach, and observed a heterogenous mixture of several articles slightly digested. At a quarter-past ten no part of the breakfast remained in the stomach. At eleven o'clock the same day he ate two roasted eggs and three ripe apples. In half-an-hour they were in an incipient state of digestion, and at a quarter-past twelve no vestige of them remained. At two p.m. the same day dined on roast pork and vegetables. At three o'clock they were half chylified, and at half past four nothing remained but a very little juice. April 9th.—At

three o'clock p.m. he dined on boiled dried cod fish, potatoes, parsnips, bread and butter. At half-past three o'clock examined and took out a portion about half digested. The potatoes and the fish were broken down into small filaments, whilst the bread and parsnips were not to be distinguished. At four o'clock examined another portion. Very few particles of fish remained entire, whilst some of the few potatoes were distinctly to be seen. At half-past four o'clock took out and examined another portion, all completely chylified. At five o'clock the stomach was empty."

Now, in the table constructed by Dr. Beaumont, the time required for the digestion of all usual articles of food in St. Martin's stomach is clearly shewn, and among the substances digested were rice and tripe, both of which were chymified in an hour. Eggs, salmon, trout, apples, and venison, were also digested in an hour

and a half. Beef and mutton required from three hours to three hours and a half, and both were more digestible than veal. Fowls were like mutton in their degree of digestibility. Animal substances were in general converted into chyle more rapidly than vegetable.

THE NON-ALCOHOLIC TREATMENT OF DISEASE.

Perhaps it may not be out of place at this stage to say a few words with respect to an erroneous notion that prevails in regard of the alleged necessity of having recourse to stimulants in order to keep up one's strength. *Sitis, non secus ac fames, aliquando deficit, aliquando observatur nimia. Defectus ejus vix est habendus morbosus,*

dummodo caetera valetudo fuerit secunda, et concocio cibi bona; nimirum quia tunc est rerisimile corpus non egere potu. Sunt qui nunquam sitiunt; scilicet, homines humidae constitutionis corporis, que utentes fluido cibo, quibus copiosior secretio humorum oris nunquam sinit fauces arescere. Now I hold that the greatest caution should be observed in recommending and inducing one's friends, especially young people, to take intoxicating drinks of any description as habitual *stimuli*; mainly because the effect on their delicate structures is to harden and disorganise their normal functions, and so lay the foundation for dyspepsia and a whole host of troublesome symptoms in after-life, the invariable adjuncts of that dreadful and degraded form of humanity, the drunkard. Therefore, whenever stimulants are in any form recommended they should only be given under the direction of some experienced physician. Those who entertain any doubts

on this question I would advise to read a nice little book by Dr. James Edmunds, "The Non-Alcoholic Treatment of Disease," which will give a most interesting account of cases at the hospital in London founded for the special object of treating every form of disease without any kind of stimulant whatever. Dr. Edmunds even goes to the length of substituting for alcohol glycerinated solutions, a medicine which has always been considered such an important pharmaceutical agent. I would also mention the lectures of E. Nott, D.D., with an introduction by Taylor Lewis, LL.D., and a report by the Committee on Intemperance, for the Lower House of Convocation of the Province of Canterbury, together with a large variety of well-authenticated and well-written books on this question.

CHOREA.

I will now say a few words respecting another distressing form of nerve trouble—*viz.*, chorea, which is said to have derived its name from there being a chapel dedicated to St. Vitus, wherein persons were wont to dance when they had this disease, or anything of the kind, till they dropped down from exhaustion, and so became cured. I am quite prepared to exonerate this said saint of the chapel from having introduced this distressing disease, which generally commences with a slight convulsive movement of the face, or one of the limbs. This generally extends and increases in severity, until the convulsions embrace one side of the body, or the whole frame. The lower extremities are commonly the first to be affected, and

there is usually considerable weakness and lameness in one, and sometimes in both legs, while though they may be at rest, the feet are often agitated by involuntary motions, turning them both, or it may be one, alternately outwards and inwards. In walking the affected leg is seldom lifted as usual, but is dragged along, as if the whole limb were paralysed, and when it is attempted to be lifted the motion is unsteadily performed, the limb becoming irregularly and ludicrously agitated, while the arm is often drawn convulsively in a contrary direction to that which is intended, so that in attempting to raise anything to the mouth, the patient often jerks it over the head. Again, if the arm be held out, the fingers cannot be kept steady, the eyes and countenance are strongly disturbed, and the convulsive movements are generally accompanied or followed by a vacant expression of countenance. The muscles

are usually quiet during sleep, but there are some exceptions to this rule. The general health in these cases is but slightly impaired, with the exception of the digestive organs, which are subject to constipation, and other troublesome symptoms. The particular point of interest in this class of disease, is the fact of its being a disorder of the reflex function, irritation of the bowels and other organs being communicated to the spine, and reflected as convulsions on the voluntary muscles, and the strange distortions of the disease being due to the conjoint action of the will and the excitomotory nerves. In some rare instances, the disorder originates in the spinal cord itself, but the general predisposing cause of this complaint is irritability of the nervous system.

I have found the most successful mode of treatment in this class of case is first to remove, as far as possible, all the

common causes of irritation, and promptly to meet any special indications as they arise. For this purpose I have found the following medicines most useful: *puls.*, *hydras.*, *lycop.*, *cupr.*, *spig.*, *zinc.*, *k. jod.*, *chin.*, *nux v.*, and *galvanism.*

HEADACHE.

I will now append a few observations on one of the many troublesome maladies which come under the observation of the physician—*viz.*, headache, which of course, like all other complaints, may be acute or chronic, that is to say, it is generally a symptom either of brain disease or of some distinct functional disarrangement. It shows itself in various forms, according to the cause and the part attacked, and, for con-

venience of description, may be divided into external and internal; the external is called cephalagia muscularis, or cephalagia periosteosa, or cephalagia neuralgica; and the internal, cephalagia congestive, cephalagia dyspeptica vel sympathetica and cephalagia organica. These names will give my readers some idea of the varieties of this complaint; however, for want of space, I must confine myself to the internal form—*viz.*, cephalagia congestiva, which simply means a congestive headache. The constitutions most prone to this form are of three kinds—the weak and leucophlegmatic, the irritable and delicate, and the plethoric. We shall find the following diagnostic symptoms pretty regular in those suffering from anœmia. The skin is pale, as well as the lips, tongue and gums. Then there are cold extremities, palpitation of the heart, violent throbbing of the carotid arteries, and small, frequent, quick pulse, generally

an obtuse pain affecting the whole of the head, especially the forehead and occiput, combined in the plethoric with the bloated countenance, the full red eye, and distension of the veins, the full pulse and heavy expression of face, and, in the delicate and irritable, with flashes of light, floating specks before the eyes, noises in the ears, coldness of the extremities, and small, frequent, quick pulse. In the two weaker forms the attacks supervene in violent paroxysms, owing to sudden noises, mental emotion, or any violent bodily exertion. As regards the plethoric form, I have been most satisfied with the results of aconite, which entirely takes the place of the lancet of former days, and sometimes may be combined with belladonna in alternation. Great caution must be shown with regard to the patient's diet, and in delicate cases effort must be made to secure repose of mind, and the stomach must be treated with soothing medicines,

such as *conium*, &c. In the anœmic form it is desirable to prescribe various preparations of iron and steel, a formula most useful when there has been loss of blood. Combined with this I have often found it necessary to administer with caution a few drops of *ignatia* before meals.

I said at the commencement this was one of the most troublesome maladies that can come under the notice of the physician, simply from this fact, that we are so often called to treat cases which are clearly the result of excess, and it is so difficult, nay, impossible, to make the patients see that to cure the complaint they must first eliminate its cause. I remember some time since being called to attend a most severe case of headache, the patient declaring there was no cause to account for it, although it was a simple fact that for some weeks past she had not retired to rest till the morning, and, although exceedingly tired from the

exertion of dancing, could not sleep. Apropos of this case, I never shall forget the piteous manner in which she implored me to make her able to go to a dance that same evening.

We have another form of headache called cephalagia dyspeptica, which is of a sympathetic character, and the pain usually fixed and seated in the left temple, or over the right eye, or on the top of the forehead. It generally commences when the patient first rises in the morning, and in ordinary instances continues till after breakfast, whilst in more severe cases it begins as a diffuse, heavy pain, which commonly becomes fixed in one spot, and is accompanied with nausea and vomiting, together with confusion of thought, dimness and indistinctness of vision, and singing in the ears. Sometimes the fit is removed by a free evacuation of *ingesta*, or of a frothy mucus, or bile, from the stomach. The duration of these attacks

varies from a few hours to three or four days, and in confirmed cases they return at short intervals, attended with most acute suffering, and occasionally, indeed generally, there is considerable amount of flatulency, which can only be relieved by free eructations. The causes of these different species of headache are derangements of the functions of the stomach and bowels, and the bad habit of taking opening medicine frequently, by which the tone of the whole digestive system is weakened. Instead of which, *hydras.*, *nux v.*, *sulph.*, and one or two other gentle medicines, with a proper attention to diet, never fail to bring about most satisfactory results. Of course there must be a proper amount of exercise taken, and in cases of sick headache or sensations of faintness a few doses of *con.* or *petrol.* I may mention this latter course will only be needed in the first instance, as those who observe the directions which

I have laid down are never subjected to an attack. When the bowels are irritable it would be well, if diarrhœa sets in, to take *china* after each action, and in case of the evacuation assuming the character of cholic, or when the secretions are greenish in appearance, a few doses of *arsen.*, either alone or in alternation with the *chin.*, will generally hit off these symptoms.

There are a vast variety of other forms of headache, giddiness, &c., some being more or less caused by motion and change of air, by heated rooms, noise, and over-anxiety; hence great caution should be observed in inquiring into the causes of headache, and discriminating one from another, inasmuch as on the amount of attention and the consequent accuracy of diagnosis the success of the treatment will entirely depend.

GALVANISM.

Galvanism having in a vast number of cases proved to be a therapeutical agent of great value, I have resolved to treat the subject in as concise a manner as I can consistently with rendering it proper justice. Here I must confess to a feeling of timidity in alluding to galvanism at all, seeing it has been so painfully abused; indeed, only a few years since, any one advocating it would have been branded as a quack and impostor. Such are the results of a genuine remedy having been pounced on by adventurers, who have discovered its value in some forms of ailments, and for want of scientific knowledge so signally failed in others, and thereby brought it into bad repute. However, I will take courage from the fact that ample

evidence may be found in the writings of Aldini, Arago, Ashburner, Boekal, Biot, Boulu, Elliotson, Davey, Duchene, Butler, Raymond, Ure, Matteucci, Reichenbach, Hape, Ampere, Leebeck, Manduyt, Gregory, Galvani, Rohland, Hahneman, Cummings, Mesmer, Faraday, &c., &c., each, of course, having his peculiar views as to its *modus operandi*, and form of application. Like all other scientific subjects, this has been most successfully handled by able men. For example, Faraday's experiments with the magnets of the Royal Society has much simplified the subject, to say nothing of the ample proofs afforded us that electricity, galvanism, and magnetism, with their innumerable combinations and varieties, are one and the same force. Indeed, from each he produced the phenomena of the others, and signally elicited from electricity all the manifestations of magnetism, whilst every day brings us ample evidence that

electrical conditions are the most important elements of health. I will now take in regular order its application, or rather, the course I have found to be most satisfactory. I will commence with the head — *e.g.*, obstinate pains traceable to the facial nerve. For this malady I press the electrode firmly behind the condyloid process of the lower jaw, and if the nerve of the zygomaticus major is accessible, it may be attacked quite close to the origin of the muscle, and having some bony support afforded for the pressure of the electrode, its power is facilitated, indeed more so than any others of the facial muscles. I may here mention, that it is positively marvellous what this agent will sometimes achieve. A case came under my observation of a gentleman in good health, who was seized with violent pain whilst in the hunting field, and, being a plucky fellow, he at once went in quest of a dentist, to

have, as he thought, the offending tooth removed. Imagine his feelings, first to find the tooth was perfectly sound, and, secondly, that its removal did not alleviate the pain in the slightest degree. His suffering continued all that night; and next day, when he applied to me, he obtained almost immediate relief by the aid of my battery. If the motor nerves, proceeding to the shoulder and thorax from the supra-clavicular portion of the brachial plexus, may be attacked without the chief trunk of the plexus being involved, then the best result may be anticipated; of course, I need scarcely say, the knowledge of anatomy is absolutely necessary, as well as considerable experience in fardization, to be able to use the fine electrodes with satisfaction. For example, some time since I had a most interesting case come under my notice, of hiccough of long standing, which I cured very shortly in the following manner. First,

I administered a dose of capsium, and before sufficient time had elapsed to expect much result, I was induced to give a dose of moschus. However, the symptoms continued, and the patient remained very irritable, as will sometimes happen; I therefore resolved to attack the phrenic nerve in the following manner:—Planting the electrode just at the outer margin of the sternomastoid, in front of the scalenus anticus, above the omo-hyoid, and pressing inwards against the outer margin of the sternomastoid, taking care not to let it get high enough to affect the fifth cervical nerve, which forms an acute angle with the phrenic, pressed the electrodes firmly in an oblique direction from without inwards, gradually increasing the power. In a very few seconds the hiccough left without any sign of its returning, and the patient has kept free from it ever since. This result far surpassed my most sanguine

expectations, and I am anxiously looking for another case to operate on, in order that I may be able to test this means before giving any kind of medicine. I have in several instances been able to relieve intense pain in the vicinity of the shoulder-joint by transmitting a galvanic current through the motor proceeding to the shoulder, from the supra-clavicular portion of the brachial plexus, without involving the chief trunk. I have also good reason to be highly satisfied with the results of galvanism as a therapeutic agent of great value in obstinate constipation of the bowels, by stimulating the abdominal muscles, whilst I give *nux v.* or *strych.*, internally, to impart tone to the peristaltic motion through the medium of the sympathetic nervous system. Again, I have obtained most satisfactory results by electrization of the internal organs by means of most ingenious instruments invented for that

purpose, most of these cases being of such a nature as to prevent their being minutely detailed in these pages. Electricity, however, suffers from occasional excess of credulity on the part of the patient, whose expectations consequently range too high, whilst in other instances one is confronted by total disbelief. Over this I have no control. I only wish I had. In that case, a fair, impartial trial would be made before hazarding an opinion. For example, in our natural and healthy state the electricity in our bodies does not, as a rule, produce any appreciable effect. But in some particular conditions of the nerves the reverse happens. It is a well-known fact that many persons are extremely sensitive to the electric changes in the atmosphere. Now let us consider the best methods of procedure, or rather, I should say, what I have in my experience found the best or most successful methods. First, then, I

determine in my own mind whether the case requires the stimulant, sedative, or restorative action of electricity. In the case of local stimulation seeming desirable, we must, as a rule, make use of either the faradic or the interrupted voltaic current, taking care to confine it to the part diseased. This will produce a free and large flow of blood, and, as a matter of course, increase of temperature, together with a greater degree of nutrition. To secure the sedative action of electricity it would be necessary to charge the patient with static electricity—in other words, cause the even uninterrupted flow of the voltanic current to pass through the seat of the disease.

PARALYSIS.

Some most troublesome complaints caused by want of nerve power—such, for example, as dyspepsia or indigestion — are to be conquered by bringing the whole of the central nervous system, consisting of the brain, sympathetic, spinal cord, and especially the pneumogastric nerves, well under the influence of the galvanic current, which is to be effected as follows:—Place one pole, say the negative, at the epigastrium, while the other is passed over the forehead and crown of the head, keeping it near the edge of the sterno-mastoid, to the nape of the neck. This must be continued down the entire course of the spine. There are also other means of application, such as the electric bath. This I have tried in general paralysis with varied success, but I

have more faith in the transmission of the electric current through the nerve direct to the part affected. This mode demands sufficient knowledge of anatomy on the part of the operator to ensure the application of the electrode to the trunk of the nerve, coupled with a knowledge of the nerves that act on any particular part of the body. This difficulty may be got over by obtaining a plate of the nervous system, easily procurable at any of the medical booksellers.

Paralysis in children sometimes dates from such an early period that there is good reason for believing it to result from some congenital defect of formation. In such cases we generally find the power over both extremities, hands and feet, impaired on one side; the limbs on that side being much smaller, and lacking finish. Frequently this defective growth and want of power is evident throughout the whole of the

same side, whether of face or body. I have met with several girls, almost full grown, whose left extremities were much shorter and smaller than the right. Indeed, the entire half of the body was similarly affected. The history of these cases, when got into, tended to show that this inequality of the two halves of the body had existed from earliest infancy; neither did the lack of power, its inevitable concomitant, result from a fit, nor was there any indication of acute cerebral disease. The affected side was weak and deficient in physical energy, but sensation seemed unimpaired. Still, in most of these cases, I remarked, in a more or less degree, a certain feebleness of intellect. In one or two instances, although physically well proportioned, the girls have from their earliest infancy had very imperfect control over one side. They would limp with their right leg as they walked, always treading on the toes, with

the heel raised considerably above the ground, and turning the foot in at every step. A similar want of force showed itself in the right arm, the fingers of that hand being quite rigid and drawn into the palm. True, by a great effort, they might be extended, but the moment the patient's attention relaxed, they returned to their former position. Sensation meanwhile appeared equally diffused, but the wasted condition and dwarfed size of the impaired members shewed, at least, defective nutrition. It is almost needless to observe, that there is not much to be done by treatment for this type of case over and above the employment of mechanical means, with a view to relieving inconvenience and diminishing deformity, of course doing all one can meanwhile to support the strength and improve the general health of the sufferer. As regards medicine, I have good reasons to be highly satisfied with the results of

strychnine, administered in various preparations, *iron*, *cinchona*, *ign.*, *puls.*, &c. Marked assistance is to be derived from galvanism, applied so as to act as a stimulus to the sympathetic nervous system, which will give a healthy tone to the secretory glands, intimately connected with the digestive and assimilative system.

Again, there is what we term congenital paralysis, which, however, is much less frequent than partial or complete loss of power over certain limbs or muscles. In a vast number of instances, this may be traced to some attack, though often of a very trivial character, of cerebral disturbance, which may have declared itself by nothing more than a convulsive seizure, or a feeling of great weight or oppression about the head, that may have lasted merely a day or two. Indeed, I have frequently remarked, that the cerebral disturbance preceding infantile paralysis, is neither severe, or long-

continued. It is essentially important, therefore, that a most careful examination should be instituted in all cases of convulsive seizure, however slight, in order to satisfy one's self that the little one can move its limbs freely as before; while, in the event of its power over them being in the least impaired, proper treatment should at once be resorted to. When, as in some instances, paralysis comes on independently of any actual brain disturbance, appearing to be caused by the irritation consequent on dentition, or, as sometimes is the case, by an old standing and obstinate constipation of the bowels (which, by the way, should never be allowed to continue), or is perhaps ushered in with indications of general debility, it will frequently yield to the treatment I am about to advocate. The duration of infant paralysis, under any circumstances, is extremely variable. In many instances it entirely disappears under

treatment dictated by those symptoms of constitutional disturbance by which it is accompanied. The medicines deemed appropriate, under the circumstances, sufficient to remove the child's indisposition, cure its paralysis, whilst in others, although all signs of disordered health may have passed away, the child oftentimes is conscious for weeks, or even months, of a want of power on one side of the body, or half the face, or perhaps a limb will be enfeebled. In some instances, this state of things may continue throughout life. We must, however, keep in mind one most important point in connection with these causes—*viz.*, that though brain symptoms, or any other form of local disturbance, experienced prior to an actual attack, do generally subside with tolerable rapidity, there is still very great danger of the paralysis itself continuing in such a measure as to cause considerable disfigurement, together with the

loss of vital power. So I would strongly urge the necessity of adopting prompt and proper treatment, for the evil consequences of neglect are often more serious in the case of the child than that of the adult, as the disfigurement, that is frequently produced by paralysis, is not seldom greater in childhood than in later life. You will generally find the muscles of any paralysed members wasted. In childhood the growth of the part being checked, in the course of a year or two it will be from half-an-inch to an inch shorter than the corresponding limb. In one or two instances I have seen the arm completely dislocated, the result of long standing paralysis; the ligaments surrounding the shoulder joint having become so relaxed as to allow the head of the humerus to hang quite out of the glenoid cavity. On measuring the distance from the acromin to the tip of the finger, we sometimes

find the paralysed limb elongated by nearly an inch. With regard to these cases, or rather their diagnosis, no great difficulty has to be surmounted. For, keeping in mind the painlessness of the affected member, it is plain no injury reduced it to its present useless state, although occasionally sensation lingers, sometimes in an intensified degree. This is often the case when the leg is the seat of the affection, and the paralysis incomplete. In that case, the child would bear all its weight on the healthy limb, and turn the foot of the affected side in when walking, standing with the toes of that foot resting on the dorsum of the other. Again, it will generally be found that the exaggerated sensibility of the paralysed limb varies greatly at different times, whereas the extreme suffering caused in the case of hip disease by the head of the femur, or thigh bone, being brought in contact with

the acetabulum, by striking the heel, coupled with a fixed pain in the knee, must be regarded as important diagnostic symptoms. For, by carefully keeping in mind these several points, we shall usually be able to distinguish between these two somewhat similar affections. Now comes a most important question — *viz.*, how to distinguish between such forms of paralysis as I have just delineated, and those more formidable cases where palsy denotes organic brain disease. Often the history of the case will be sufficient in itself to guard us from error. For if paralysis were suddenly to affect both limbs on one side, and neither be preluded by, or attended with, any brain symptom, it might safely be contended that nothing was very wrong with the brain. But we shall find greater difficulty in coming to a correct conclusion if the loss of power has been gradual, especially if only confined to one limb.

If the brain be the seat of the disease, we must look for more than mere weakening of the motor power. There will generally be an occasional involuntary tremor, or nervous twitching of the limb, or contraction of the fingers or toes. When paralysis succeeds convulsions, the case will be still more obscure. But in the majority of cases, palsy comes on after a single fit, while if resultant on some local mischief in the brain, it is generally preceded by several convulsive seizures, during each of which the limb that afterwards suffers is in a state of peculiar activity, or in some cases the only part liable to be convulsed.

Now I will give a glance at the treatment of these cases. I have found most satisfactory results ensue from treating each individual case according to the particular symptoms it may present, at the same time taking every pains to improve the

tone of the system, keeping the bowels and secretions in as healthy a condition as possible. The medicines I have found most useful are *nux vomica*, *cinchona*, *strychnine*, *iron*, *cod liver oil*, aided by the wonderful and indescribable agency of galvanism, together with fresh and suitable air, and good nutritious diet, taking the stomach into our council, and complying with its demands, as far as we can, consistent with propriety.

THE NERVOUS SYSTEM IN CHILDHOOD.

There are, of course, a vast number of other diseases of the brain and nervous system, some of which strike me as most useful and interesting, and which I will endeavour to delineate as minutely as my

limited space will allow. For example, the brain of the infant is certainly more liable to disorganisation than that of the adult, owing, no doubt, to the more marked variation in the circulation of blood. Now the cause of this is not difficult to discover, the brain being contained in a bony envelope, otherwise "the cranium," which is complete in the adult, and incomplete during infancy. Again, the brain in infancy is much more exposed to disease than that of the adult, in consequence of the far wider variation of which the cerebral circulation is susceptible. Nor is the cause of this wrapt in mystery, for the cranium of the adult being a complete bony case, and the firm substance of the brain affording a comparatively unyielding support to the vessels by which it is nourished, it has been already clearly shewn, that the quantity of blood these vessels contain is not always the same, although some have erroneously

deemed otherwise. Moreover, its variations must needs be circumscribed within far narrower limits than in the case of a child, whose cranium, with its membranes partially developed, and unossified sutures, opposes no such obstacle to the admission of the increased quantity of blood, whilst the soft brain keeps up a much slighter counter-pressure on the vessels than that exerted by the comparatively firm parenchyma of the adult organ. Then, as regards the circulation in the child. If this be disturbed, whether from difficulty in the return of venous blood, as during a paroxysm of whooping cough, or from increased arterial action, as at the onset of fever, or during an acute attack of inflammation of some important organ, the brain becomes congested, and convulsions often ensue. Again, the same condition of things which renders the brain liable to be overcharged with blood, renders it possible for it to be

drained more completely than in the adult —a most important fact to keep in mind in treating the diseases of infants, and one good reason why the lowering of children by depletion is frequently found to be attended by disastrous results, more so than in the case of an adult.

CONVULSIONS.

Again, unfortunately, it constantly happens, that whilst there are special reasons for studying the diseases of the nervous system in childhood, the attendant difficulties are greatly in excess of those generally met with in the adult. For example, deficient intellect, altered sensations, impaired motions, are some of the principal features of this distressing form of malady, and constitute in themselves disease of the nervous system.

Supposing the patient to be an adult, he is able to describe his altered feelings, or, by chance, he may experience some considerable change, as regards his intellectual faculties, even before this has become observable to others; thus, timely warned, we can often take measures to prevent the advance of disease, and ward off that deterioration of the motor powers, which, in his case, we have good reasons to ascribe to the presence of grave organic trouble. But in the case of a child, we have a very different state of things to cope with—*videlicet*, its inability to detail its sensations. For long after it has the power of speech, it cannot form its ideas with sufficient accuracy to put into words what it really feels, so we must not expect to derive much information on that score, infantile intelligence being nothing more than the common instinct of animal life. Again, the proportionate value of recognised

symptoms varies very much. For whereas disturbance of the motor power is rarely met with in the case of an adult, except as the direct consequence of some serious disease of the brain, it may take place in the child in cases of the mildest as well as the most serious ailments. For example, obscure convulsions will occur several times during the day, for many days together, without any apparent cause, without even causing any disturbance of the child's general health. Then the question arises—How, as regards children, are we to attain to anything beyond the merest guess-work in our diagnosis of diseases of the nervous system? What interpretation can we attach to that symptom of symptoms, impaired motor power, which, in the case of the adult, we regard as so essentially important, and which we meet with in the child under such variable conditions?

Keeping in mind the limited space at

my command, I must content myself by briefly observing, that great and difficult as this task may seem, it is to be overcome by careful attention and keen observation. To make this quite clear I will here give a brief outline of the symptoms by which we are enabled to detect disease of the nerve centres. Any painful sensations the infant may experience are very soon revealed by the haggard, anxious, and oppressed look which forms a striking contrast to the naturally happy expression proper to babyhood. Often the child will be observed to put its little hand to its head, and even beat or rub it whilst lying in its little cot. This accounts for our often finding the hair quite worn off the top of the head. The exclusion of light seems conducive to comfort, the child lying with its eyes half closed, in a state of apparent drowsiness, from which it frequenty rouses with a start, and begins

to cry. It it worth noticing that the character of this cry is peculiar, especially in inflammatory diseases, being generally a low, almost constant moan, most distressing to hear, and rising occasionally almost to a shriek. If the little one be quite young, it will often seem relieved by being carried about; indeed, whilst kept moving it will cease its wail for a time, only to begin again the moment motion ceases. Occasionally the little one's features will be pervaded by a sudden expression of alarm when passed from the arms of one person to another, or even if its position be slightly altered, as though it turned dizzy, and were afraid of falling. Thus, even in the case of an infant, we are conscious of a vocabulary of signs, by whose aid we are enabled to say with certainty there is pain in the head, and in connection with this pain ensues dizziness, and dislike of light. But we must be

cautious in arriving at a definite conclusion. For children, as well as adults, may have sick headache, with some degree of febrile disturbance and considerable increase of surface temperature. The state of the organs should always be taken into consideration when forming an opinion.

We may derive much valuable assistance from a thorough grasp of the state of the child's mental powers and natural bent from the earliest stage of infancy. I have often watched an infant in its mother's lap, and noticed the look of happy recognition with which its little eyes met hers. But in the first phase of brain disease this intercourse is interrupted. The little one seems never to catch its mother's eyes, but lies sad and listless, as if all around were perfectly indifferent to it. Occasionally familiar faces will cause alarm, the little one appearing not to even recognise those who have hitherto always been near at hand. This

symptom, however, generally is but of short duration, perhaps even momentary. Soon the little one subsides into its former condition, allowing itself to be taken up by those of whom it seemed but just now frightened. Now these symptoms are by no means susceptible of but one interpretation. If we fear that disease is going on in the brain, ascertain if the skin be hot, and if there is heat of the head, with frequent flushing of the face, attended by increased agitation and distress, or, on the other hand, by increased drowsiness. The fontannelle in this case will be prominent and tense, and the pulsations of the brain unusually marked. The veins of the scalp, too, will be full, and the carotid arteries will beat with abnormal force; the pulse being not merely more rapid than usual, but irregular, unequal, or even distinctly intermittent. If we examine the eye, we shall find the pupil generally con-

tracted, indicative of an effort on the part of Nature to exclude the light as much as possible from the over-sensitive retina, or it is unusually dilated, and acts slowly, as though disease had deadened the sensibility of the nervous system. Moreover, the pupils of the two eyes do not act simultaneously, oscillating under the influence of light, first contracting, then dilating, or remaining dilated, or continuing to oscillate, though less perceptibly. Even when the little one is aroused from sleep, this oscillation of the pupil is noticeable, though the light may not be strong. These are some of the most prominent symptoms of disease of the brain, many of which point to most formidable disorders.

We must also keep in mind that the bowels are much disturbed. Frequently, though not invariably, constipation is an attendant evil, whilst nausea and vomiting

are seldom absent. Indeed, I do not know any one symptom that would so immediately direct my thoughts to the brain as this, particularly should the condition remain unaltered. When the stomach is empty, a little greenish mucus will often be rejected, the patient obtaining little or no relief, and the retching and vomiting returning. I myself have had occasion to recognise the specific weight of this symptom, which in some cases has continued for days, before any other sign of brain disease could be detected. Of course, when children get at three or four years old, such occurrences could scarcely be overlooked. But it is very different in the case of infants who are constantly vomiting milk. Those in charge of these little ones may probably regard a symptom of this sort as scarcely worth mentioning.

Now let us for a brief space consider the chest; for the manner in which the

respiratory organs perform their functions should not be overlooked. First, then, there is a peculiar, unequal, irregular breathing, which is called cerebral respiration; this is of considerable value when present as a diagnostic sign. But in some instances it is not observed until disease of the brain has been discovered to exist beyond all question, and there is generally a short, hard, hacking cough, which must be heard to be distinguished from an ordinary cough. It is well to be acquainted with this fact, inasmuch as it indicates disease of the brain, and not of the lungs. Indeed, if we listen to the chest we shall also detect peculiar sounds, which are clear indications of disturbance of the nervous system, such, for example, as spasmodic croup. I must enter, however, somewhat fully into the indications of brain disease afforded by the occurrence of convulsions. This symptom is undoubtedly one

of the greatest importance, since it is almost always present in every case of disease of the brain that has had time to assume a serious aspect; albeit during a certain stage of its progress the very frequency of the phenomena, and the vast variety of circumstances under which it occurs, render it most difficult to rightly interpret its meaning. Perhaps it will lead to our enlightenment if we keep in mind, that in a large proportion of cases convulsions in the infant answer to delirium in the adult, as in early life the motor power presides over the chief function of the brain, which has not yet begun to exercise its higher office as the organ of the intellect. Hence, we must endeavour to impress upon ourselves the fact, that the convulsions liable to infancy during the progress of some acute disease—such, for example, as inflammation of the lungs—do not necessarily imply that any new malady has attacked

the brain, but simply that the disease is of so serious a nature as to disturb all the functions, that of the brain not excepted. Convulsions may at other times take place in infancy, not as the result of disease of the brain, but simply in consequence of those peculiar anatomical arrangements which render the brain liable to much more sudden and prolonged congestion than can occur in the grown person. For example, the kind of convulsions that frequently come on during a paroxysm of whooping cough, caused by an obstructed flow of blood from the head, and soon over, that impediment being removed by the little one drawing a long breath. I must admit, though, these considerations, essential as they are, do not quite explain the great frequency of convulsions in childhood; still they throw light on much that otherwise might fairly be considered inexplicable. The chief cause of this distressing

malady is, I have no doubt, mainly attributable to, as I have before endeavoured to show, some other form of nerve affection—*viz.*, undue influence of the spinal sympathetic nervous system over the brain in early life. It is easy to apprehend that the controlling power of the brain in the adult checks the display of those reflex movements which become at once evident if disease arouses the excitability of the spinal cord, or cuts off the influence of the brain from the paralysed member, or even if sleep suspend that influence for a while. For instance, when a child is born, its brain is but imperfectly developed. Its (the brain's) functions are most humble at this period. Hence the immense amount of deaths caused by convulsions among children of one year old. During the next two years the brain more than doubles its weight, when deaths from convulsions decrease by about one-third, and so on in

proportion. As the brain increases in size, and its structures assume greater perfection, and its higher functions become displayed, the tendency to convulsions gradually declines, and from the tenth to the fifteenth year the average percentage of cases does not exceed three per cent. Above fifteen, one per cent. from diseases of the nervous system is the common average. No great acumen is required to demonstate that whilst convulsions are the immediate cause of death, yet this result is rare during childhood, comparatively speaking, seeing how very frequently they do occur. Again, the loss more often betokens serious disease of the brain in the child than in the adult, although liable to be brought about at any time by excitement of the spinal cord. Again, this identical disturbance, which ushers in fever in the adult, shews itself by shivering; but in the case of the child the same disturbance often shews itself,

not by shivering, but by convulsions that may be induced by a constipated state of the bowels, or the presence of worms in the intestines, calculus in the kidney, or the pressure of a tooth on the swollen gum. This is, I think, sufficient to shew the importance of, in the first instance, thoroughly satisfying one's self in every case as to where the seat of irritation exists. When the fits come on in the advanced stage of some serious disease, they are, probably, only indications that Nature is exhausted, and the beginning of the end is at hand. But when they attack a child with whooping-cough, they at once point to a congested state of the brain, caused by the impeded circulation of the blood through the lungs; or, in the event of their occuring in a child apparently in good health, they lead one to think the stomach has been overloaded, or some indigestible substance has been swallowed; or, if not, most

probably one of the eruptive fevers is about to declare itself, such, for example, as scarlet fever, or small pox.

In conclusion, I suppose I must say something about the causes of convulsions, although I must frankly admit I prefer very much dealing with effects. First, then, we should be most careful to get a clear, exact, and reliable history of the child's state of health for some time before any symptoms of convulsions appeared; also ascertain if the child has ever had worms, and if the digestive system is out of order, and how long it has been so, and if the teeth are causing anguish that may have been undergone for some time, and been attended with very considerable constitutional disturbance. Moreover, we must be careful to ascertain if any brain symptoms preceded the attack, and, if so, to what extent. For it is seldom that acute disease of the brain sets in with convulsions. I

have found great difficulty in getting these simple questions answered, merely, I believe, from the fact that nurses do not see any necessity for enquiry, and so do not care to tax their memories, contenting themselves with a simple statement, to the effect that nothing was the matter until the convulsions came on. But if we carefully prosecute our investigations, we shall generally find that there were indications of brain disease existent for some days before the attack, although not of sufficiently severe character to attract attention.

GOUT

Derives its name from the French *Goutte.* This forms one of the most troublesome and perplexing diseases which comes

under the observation of the Physician. From its complex character it abounds in interest, and has occupied the thoughts of many learned and able writers, and the general symptoms being so well known, I need scarcely discuss them in detail, but confine my observations as briefly as possible to its pathology and relation to disorders of the liver, and kidneys, and also some of those troublesome affections of the skin, which there is no question of doubt, is due to the presence of the gouty diathesis. After many years' observation of gout, I am quite disposed to regard it as hereditary; nevertheless, from the fact of attacks being invariably preceded by affections of the stomach, leads me to believe the principal trouble is manufactured there; and Cullen tells us that gout is due to an affection of the nervous system—and there can be no question of doubt as to the correctness

of his views—and this may account for one of the great characteristics of gout, *viz.*, the attacks increasing in frequency year by year as our nervous vigour declines. One of the most important facts in connection with gout, is that uric acid is found in the products of gouty inflammation, and also in the blood, which is combined with soda, whereas in health scarcely a trace can be detected in the blood; but it is in the kidneys of gouty subjects that we so frequently find cause for so much anxiety, as some of the greatest authorities are of the opinion that the fibrous structure of the kidneys is sometimes involved before the joints, which so often results in what is termed Bright's Disease, contracted kidney, &c., &c., which is so frequently met with in old standing cases of gout. From the pathological appearances, there is little doubt that sodium urate in the immediate vicinity of the joints, is the exciting cause

of much of the pain and swelling. Again, excess of uric acid in the blood is another exciting cause, and it will be useful for my readers to keep in mind this important fact when they examine their urine—a fact pointed out by Dr. Bence Jones—*viz.*, that there is no relation between the acidity of the urine and the absolute amount of uric acid which it may contain, for in the urine—which is most acid—which deposits the largest uric acid sediment, a very small quantity of uric acid may exist, whilst the urine containing most uric acid may be held in solution with but feeble acid reaction. Now let us glance at the predisposing causes, which I am convinced may be attributed to a disorganised condition of the nervous system—in which opinion I am supported by several authorities — and a defect in the secretory glands, especially the liver and spleen, which play such an important part in the process of digestion,

since all authorities agree that errors of diet should be carefully avoided, and those who suffer from this malady will not require me to tell them to avoid, for instance, sugars of all kinds, or at least as much so as is practical, taking into consideration that there are three kinds of sugar met with in our food, *viz.*, cane sugar, grape sugar, and milk sugar, or lactose, as it is called. Cane sugar, when taken into the stomach, is converted into glucose, which is very liable to undergo alcoholic fermentation, whilst milk sugar is less liable to undergo this change, but in the presence of most nitrogenous substances it is very apt to be converted into lactic and butyric acids, and the fermentation of milk sugar is very apt to occur in the presence of cheese, and it is generally known that when starchy articles of food are taken into the stomach, the starch is converted into glucose by the salivary pancreatic and intestinal

secretions. The acidity of which gouty subjects so often complain, is the product of the fermentation of the food, augmented by an increased secretion of gastric juice, which shews itself by causing a sour taste in the mouth, acid eructations, and sour odour of the breath. There is no question of doubt that in a vast number of cases the nature of the food plays a most important part in the production of this acidity, and those who take a large proportion of vegetable, will find, as a rule, that it produces more of this discomfort than an increased quantity of animal food, which may be accounted for by the process of fermentation, when glucose becomes converted into lactic acid, which produces the acidity. And it is worthy of note that glucose has a greater affinity for alcoholic than lactic fermentation.

The next question is very important, and should receive our most careful consider-

ation, *viz.*, the influence of alcoholic liquors on those afflicted with gout is, beyond doubt, damaging to the liver and kidneys, and must therefore aggravate the symptoms of gout, by depressing the constitutional vigour; and the strong, full bodied wines, cider, and malt liquors, supply at once the material for the production of gout. And it may, at this stage, be well to mention that hard study and much brain work, especially if accompanied with excessive anxiety of mind, annoyance, or grief, will produce an attack, which, in itself, is *prima facia* evidence of its being due to an affection of the nervous system, and after considerable observation, I am quite convinced excess of every kind, especially such as has a depressing effect on the nervous system, will not only tend to produce an attack, but very considerably aggravate its character. Now let us consider how we shall be able to detect the presence

of gout in the system in the milder forms. First, because I have met with such a vast number of cases which have given rise to considerable constitutional disturbance, without being sufficiently developed to lead the sufferer to think of gout. And so they continue to suffer, attributing their uncomfortable symptoms to a vast number of other causes, until in some cases a regular attack occurs; then there is no difficulty in recognising the paroxysms. And again there are a vast number of symptoms which have been put down to gout resulting from the same cause, *viz.*, the presence of an excess of urate of soda in the blood, hence it requires such a nicety of judgment to determine. I have met with a vast number of cases resulting from a disorganised condition of the digestive system, assuming various forms of organic diseases and trouble, continuing for long periods, and terminating occasionally in a regular attack of gout.

Therefore it would be well for all sufferers from dyspepsia, in all its various forms, to keep these facts in mind, also that the acidity, flatulence, and constipation of the bowels, are some of the most prominent symptoms in gouty subjects.

Now let us consider the symptoms of gout, and how they occur. A regular attack generally commences about three o'clock in the morning. The sufferer having gone to bed in his usual health and spirits, without the least suspicion of what was about to happen, and is awakened by an acute pain in his foot—generally the ball of the great toe—accompanied with shivering, which usually subsides as the pain increases, and is followed by heat; the pain generally growing more acute, indeed, becoming most violent and intolerable, which the sufferer will describe as absolute torture. A humorous Frenchman in describing the difference between the symptoms of gout

and rheumatism, says, "For de rheumitism put your foot into de vice and screw it up as tight as you possibly can; and for de gout, give it one more turn." The pain produces restlessness and misery, and the affected part is rendered intensely tender, so much so, that the sufferer cannot bear even a single sheet to touch it, nor even the jar of the bed caused by the attendant walking across the room; and he seeks comfort by perpetually shifting his foot from place to place till about the ensuing midnight, when the pain declines, generally gradually, but sometimes so suddenly that the sufferer thinks he has found an easy position at last and falls asleep, and breaks out into a gentle perspiration, and when he awakes the next morning he finds the part or seat of the pain has become red and swollen, also tense and shining. These symptoms generally re-occur in a mitigated form or degree for some six to ten days,

then the complaint entirely subsides for a longer or shorter period, according to management. In some rare instances gout will attack the intestines, producing a form of diarrhœa or colic; this is generally the result of what is termed metastasis, or sudden transfer of the gout to another part. This should be borne in mind, as I have seen such terrible results from the sufferer applying cold to the affected part, and in many instances I have known gout to suddenly attack the liver, producing all those consequent troublesome symptoms, not the least of which are the lowness of spirits, despondency and depression. And it may also attack the kidneys, and give rise to very considerable anxiety, especially to those who are always keenly on the look out for symptoms, and more especially those who are sufficiently learned to discover the existence of uric acid and urates, which are generally to be found in the urine of

gouty subjects; and irritability of the bladder is also of frequent occurrence, the urine being generally scanty, and of highly acid reaction, giving rise to some most distressing symptoms, such as burning pain in the part, &c., &c. There is also another very troublesome symptom termed Eczema, which causes the sufferer much discomfort, and should be regarded as a local sign of constitutional disturbance, and be cautiously dealt with. I will now proceed to the consideration of the diet, which in gouty subjects becomes so very important. Now a certain quantity of albuminous material is absolutely necessary for the supporting and keeping up of our structures; at the same time it is very desirable to avoid excess, especially of vegetable food, which if taken in sufficient quantity, the tendency would then be to produce an increased amount of carbo-hydrates, which is said to be more easily oxidised, and consequently

more readily consumed in the system than the albuminous compounds, and will tend to prevent the disintegration and oxidation of the latter. Therefore it will be seen that meat is not counter-indicated in gouty subjects, but it should not be too freely indulged in. I consider once in the twenty-four hours quite sufficient, but of course this rule must be guided by circumstances, and the quantity should not, as a rule, exceed from ten to twelve ounces. It having been shewn that carbo-hydrates are contra-indicated in gouty subjects, those articles of food containing them should be very sparingly taken, such, for example, as sugar; starch, having such a great affinity for oxygen, should be avoided; also farinaceous food, such as potatoes, rice, and bread should be taken sparingly, and fruit also should be taken sparingly, and the ripest kind selected. And I can confidently say from long experience that any form of

alcohol, or indeed fermented drinks, should be avoided, and ærated waters or plain pure water, which should be boiled and stood aside until cold, then passed through a modern and reliable filter. But when the sufferer finds he cannot make a meal without wine, he should select good sound light claret or hock; milk also has proved most useful in many cases under my observation, although some authorities contend that it increases the production of uric acid; this results from the fact of its being so rich in lactic acid, the result of the fermentation of its sugar. I have also found cocoa answer admirably, especially if means are taken to rid it of its fat; and the beneficial results of fresh air is as advantageous as diet, of course combined with suitable exercise. But over-exertion should always be avoided, as over-fatigue is a great promoter of indigestion. Many of my patients declare that they derive

much benefit by taking, when troubled with acidity in the stomach, Carlsbad Water, which contains sulphate and carbonate of soda, and chloride of sodium, but my plan would consist of removing those articles from the food which tend to produce the acidity, rather than resorting to such corrective means. But I must confess, in this fashionable times of waters, I am frequently compelled to allow my patients to indulge: some go on the continent, and of course visit Aix-les-Bains, Aix-la-Chapelle, Widbad, Treplitz, Vichy, Wiesbaden, Baden, whilst others are satisfied with Bath, Buxton, &c. Now, as I have before said, everything should be avoided that tends to produce nervous exhaustion, especially late hours to bed, as a fair amount of sleep is most essential, and when this is interrupted, great pains should be taken to ascertain the cause, which will frequently be found in the stomach. The cutaneous affections also

often prove a source of great discomfort to the sufferer, such as Eczema and Psoriasis, which at once points to constitutional treatment, and the least that is done externally the better, especially as we are able to bring this trouble under full control, by attending carefully to the diet, &c. And in some instances I strongly advocate the use of the Turkish Bath, or Tepid Bath of pure water. And when the irritation proves very troublesome, use carbolic lotion or the soap, and powder the parts with the Sanitas Toilet Powder. And in some instances simple flour proves most comforting.

Having thus as concisely as possible endeavoured to bring the most important points under the notice of my readers, I will now devote the remaining portion of my allotted space to briefly summing up the all-important questions to the sufferer, *viz.*, what may I eat, drink, and avoid? Unfor-

tunately there are but few articles of food which may be taken with impunity, for example, beef, mutton, game, fish, chicken, eggs, &c. And the vegetable portion should consist principally of lettuce, watercress, with a moderate amount of fresh ripe fruit. The drink should be pure water, or barley water, toast and water, and in some instances Lemon water, say, the juice of one lemon to a pint of water, if desirable, sweetened with a valuable recent discovery, Saccharine, which imparts all the sweetness of the sugar without undergoing any fermentation in the system; in other words, passes away as it is taken. Articles of food to be avoided:—Gelatine, farinaceous substances, such as bread, rice, potatoes, should be used sparingly, pastry of every kind, fruit, unless very fresh and ripe, and then only in small quantities. Any form of alcohol, all kind of malt liquors, cider, &c., &c.

Ratio harum rerum satis obscura; neque plena explicatio data est hactenus Tamen juvat monuisse plerosque consensus tum generales tum speciales, pendere a nexu quem omnes partes corporis habent cum cerebro que id affectum certâ ratione certo stimulo Ubicumque demum admotus fuerit vel mutare statum universi nervosi generis vel incitare quasdam partes præ ceæteres ad motum Enim nervo alterutrius Partium quæ consentiunt secto vel compresso, vel obstructo, vel læso quovis modo vel demum cerebro ipso multum læso est nullus consensus; quamvis partes ipsæ ad contractum stimuli ostenderent se non amisisse suam moventem vim.

The medicines which I have found most useful:—*Strych.*, *phos.*, *ignat.*, *gelsem.*, *podoph.*, *lycopod.*, *kal.*, *iod.*, *merc.*, in various preparations, *puls.*, *arsenium*, *laches*, *hyosc.*, *nux. v.*, *carb. veg.*, &c., &c.

CONCLUSION.

But in case of severe congestion of the brain, apoplexy, and phrenitis, convulsions usually occur at a very early stage. Yet even here extreme drowsiness, accompanied by great pain in the head, and vomiting, usually for some hours precede the actual attack. When the brain is thus seriously involved, the recovery from the convulsions is very unsatisfactory, and even imperfect, attack being succeeded by attack—in fact, the evidence of brain disease is so conclusive, as to leave little or no doubt in one's mind that the brain is and has been affected. Tubercular deposit will sometimes remain for a long time in the brain before causing any well-marked symptoms. The first indication we get of its presence is a fit of convulsions. These convulsions are,

however, very rarely at first severe. But we shall learn to dread them more than those which assume a more formidable appearance, particularly if we find only one side of the body affected, or that the greatest tendency is that way. We must also keep in mind, that the convulsions may occur from the brain lacking blood, as well as being overcharged, so that when the convulsions attack some badly nourished infant, it may easily be the result of atrophy. Now let me observe in conclusion, it is of the gravest importance that parents, guardians, and all who have the charge of children, should most carefully watch the first indications of any disturbance of the nervous system that may be at all likely to terminate in an attack of convulsions, being especially careful, meanwhile, not to rely too much on the opinions of old nurses and attendants, who will often insist that a child has been very much convulsed,

when, upon inquiry, we find nothing of the kind ever occurred. Of course, I do not for a moment desire to impute any intention of wilfully misleading one, but the fact is, ignorant persons confound convulsions proper with that type of symptom which generally ushers in convulsions. Many of these symptoms are frequently caused by indigestion, or a disordered condition of the bowels in young infants; some designate them inward convulsions, or fits. The symptoms generally are as follows: the little one will lie perfectly quiet, as though asleep, winking its half-closed eyes, a sort of smile upon its lips. This state of things, I should add, will sometimes exist during actual sleep, especially this moving of the mouth, which has suggested to the minds of poetically disposed persons "the angel's whisper," familiar to motherhood. If this state of things increases the little one breathes with difficulty, the breathing even

seems sometimes almost stopped, and a livid ring surrounds its mouth; if wakened, it begins to moan, and usually is sick, often disengaging an immense quantity of wind, especially if one applies a little friction to its belly, and when this internal trouble is relieved, the symptoms generally pass away, leaving us no reason to apprehend a convulsive seizure in the absence of any more serious signs or symptoms; but when we find the thumbs drawn into the palms, either from habit or during sleep, and the eyes seldom more than half closed, the twitching being not merely confined to the angles of the mouth, but affecting the whole of the face and limbs, while the child awakes with a sudden start, flushed or livid, its eyes either turned up under the eyelid, or the pupils suddenly dilated, and the countenance stamped by an expression of alarm, then we have occasion for anxiety.

But when the fit really comes on, the muscles of the face twitch, the body becomes stiff and immovable, and the head and neck are drawn backwards, while the limbs are violently relaxed and extended. Occasionally we find these movements confined to some patients' muscles, or one side of the body, sensation being quite suspended, so that you may even touch the eye-ball with your finger, sensitive as that organ is, without causing the little one to wink; the pupil being insensible to light, sometimes immovably contracted and dilated. The little one is also perfectly unconscious of sound, and the pulse is generally very small and frequent, and in some instances quite impossible to count; the breathing being meanwhile quick, laboured, and very irregular, and the skin intensely active. Indeed, the little one is often bathed in profuse perspiration. After this state of things has continued for a

few minutes—or, in some cases, up to an hour or more—the child will fall asleep, or lie, as it were, in a bewildered state, whence it will emerge only to begin crying, or it may sink into a condition of coma, accompanied by slight twitching, or it may, alas! never rally. But this is not usual unless the constitution has been shattered by disease, or—I regret to be compelled to say it—that much to be lamented and sadly prevalent system of drugging. Of course, there are a whole host of other important symptoms, each abounding in value and vivid interest, but I must not detain my readers further.

J. Beal & Son, Printers, 55, East Street, Brighton.

PRESS NOTICES OF FIRST EDITION.

"Nervous complaints are unhappily so greatly on the increase among us that these pages are pretty sure to find readers. They consist mainly of practical observations, and the management and treatment of the most important and distressing affections of the nervous system. The author, who has had nearly thirty years' experience and practice in nervous ailments, commences by giving a lucid description of the nervous system, whence much may be learned. He then treats of brain softening, citing many cases, gives an account of hysteria and epilepsy, and details some experiments on digestion. Chorea is dealt with, and there is an interesting section devoted to headache. Paralysis is treated at some length, as are also the special nervous diseases of children. The book is decidedly useful."—*Brief.*

"THE NERVES. Being a Few Practical Observations on the Affections of the Nervous System. By Dr. Henry Belcher. (*E. Gould & Son.*)—The author lays down a series of general propositions which embody the extensive experience of the author, extending over nearly thirty years. Dr. Belcher has, unlike many other physicians, retained distinctly in his memory the firm and sure facts which at an early period of his life he learned at the anatomical schools. His observations on atrophy of the muscles during paralysis are couched in singularly exact and precise language. There is much in this pamphlet worthy of perusal by the non-professional reader, and the language in which the author has tried to convey his ideas is singularly lucid and exact."—*Public Opinion.*

"This book, which is rather of a technical than general character, deals with several important affections of the nervous system. Dr. Belcher gives the result of some highly important observations in cases of softening of the brain, and of hysteria; but that which would interest the general reader most is the chapter on the non-alcoholic treatment of disease. With regard especially to young people, the author remarks (p. 46): 'The effect on their delicate structures is to harden and disorganize their normal functions, and to lay the foundation of a host of troublesome symptoms in after life, the invariable adjuncts of that dreadful and degraded form of humanity—the drunkard.' The author cites with approval the report on the subject by the Lower House of Convocation. . . . There is a very able disquisition on galvanism, a treatment which the author seems thoroughly to understand."—*Church Review.*

"'THE NERVES.'—Messrs. Beal and Co. have just published a medical work under the above title, by Dr. Henry Belcher, of Brighton, containing 'a few practical observations on the Management and Treatment of some of the most Important and Distressing Affections of the Nervous System,' which we commend to the notice of our readers, for the lucid and simple manner in which the writer (who is a medical practitioner of long standing and reputation in the town) has treated a somewhat difficult and abstruse subject."—*West Sussex Gazette.*

"A treatise on this important subject appeals to all thinking men, who have infallibly realized the necessity of devoting some attention to the delicate network which enmeshes their most cherished arcana of the earthly tabernacle; they tread often upon the threshold of nervous derangement, and cannot afford to despise the firm helping hand which would save them from stumbling and lead them to the sunlight of health. The author is learned in literature as well as medicine, and believes not only in the inductive process of reasoning, but claims to advance theories founded upon thirty years' experience. The wonder is that he can confine himself to fifteen pithy chapters in treating of this inexhaustible subject, especially when contemporary literature teems with treatises and theories which have only a partial affinity to the problem which is imperfectly understood—the well-being and the conditions of subsistence of the inner man, which is the mainspring of healthy existence and intellectual vigour. The author discards the slovenly logic of 'I think, therefore I am,' and says his patients should be well in order to think aright; and we must accept his disclaimer of selfish motive after a careful perusal of his elaborate treatise. To see ourselves as our doctor sees us is an experience which we may do well to acquire at the risk of some personal mortification, as it may spare us a more humiliating acquaintance with Esculapian or Galenic theories and their application *in corpus vili.* The man who is his own practitioner has a very bad patient, and the wise man who studies his constitution to the extent of being able to dispense with the medicine man will peruse with avidity such secrets as are here candidly revealed. The paragraph on *le petit mal* (as distinguished from *le grand mal*, or epilepsy) is of absorbing interest, for the sufferers number legion who have never had it diagonised; yet this work is so mildly technical that the reader may *tater son pouls*, if we may be allowed the expression, with the utmost safety. Nostrums are avoided here, but plain directions abound. A theorem illustrates vital energy and vital disturbance in a remarkably lucid manner, and we will quote it in per-centages: the mean of vital energy is 100, affected by organic and ganglial nerves in the following ratio: stomach and intestines, 14; heart, 2; vascular system and lungs, 16; brain and voluntary nerves, 14; liver, spleen, and pancreas, 12; urinary and other organs, 14; surface of body, 6; 'rest of body,' 22=100. If derangement acts on any organ to an abnormal extent, the system is thrown out of gear in a manner which is easily understood by a transposition of the per-centages. We must refer the interested reader to page 29 of this work for the

elucidation of this theory, which will no doubt be obvious to some. There is an excellent section on 'The non-alcoholic treatment of disease,' and galvanism is also treated of. The importance of the work can only be guaged by perusal; and we can only add that in 80 readable pages the author has compressed a great deal of interesting matter which is as creditable to his skill as to his literary ability."—*Brighton Standard and Fashionable Visitors' List.*

"This work is the outcome of a close, practical observation of the management and treatment of some of the most important and distressing affections of the nervous system. The author is Dr. Henry Belcher, a physician of acknowledged ability, and a townsman of honourable repute. The treatise has been given to the public at the request of many friends, and the facts recorded have been gathered during an experience of nearly thirty years. The subject is one of great interest, when the distressing nature of the diseases arising from affections of the nerves is considered; and the information conveyed, and the results arrived at and now communicated to the public, will doubtless prove not only instructive, but beneficial. The book has a considerable range, and the manner of treatment shows that the various branches of the subject dealt with have been very thoroughly studied by the author."—*Brighton Guardian.*

"'Family Practice; or, Simple Directions in Homœopathic Domestic Medicine' (9th thousand: E. Gould and Son), and 'The Nerves' (E. Gould and Son), by Dr. Henry Belcher, are of too technical a nature for us to say more than that they are very simply and clearly written."—*Graphic.*

"Reading this book on the Nerves reminded us of an anecdote of a sick child who said to its mother, 'O, I wish I had been born before there were any nerves.' In these fast days of overwork and brain pressure there are many who, no doubt, share in the feeling of this child; and if it were possible to reach some mode of existence from which the nerves, or some of the nerve afflictions so ably treated of in this book, were excluded, they would be very glad to do so. Dr. Belcher's book, though small, treats of the nervous system in general, and of other forms of nervous disease, softening of the brain, hysteria, epilepsy, experiments on digestion, the non-alcoholic treatment of disease, headache, chorea, galvanism, paralysis, &c. The book will be valuable to the profession on account of some interesting cases of cure recorded, and being written in an interesting and popular style, will be instructive and profitable to the general reader."—*The Freeman.*